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ABSTRACT

The Miscellaneous, Part II Section of the proceedings contains the following eight papers: "Academic Letters of Recommendation: Perceived Ethical Implications and Harmful Effects of Exaggeration" (David L. Martinson and Michael Ryan); "It's All about the Information Salience Effects on the Perceptions of News Exemplification" (Francesca Dillman Carpentier, Hong-Sik Yu, and Coy Callison); "Negative Implications of the Third-Person Effect on Program Assessment Validity: An Experiment with the Drug Abuse Resistance Education Program" (Stephen A. Banning); "The Effects of Increased Awareness on College Students' Interpretations of Magazine Advertisements for Alcohol" (Erica Weintraub Austin, Amber Reaume Miller, John Silva, Petra Guerra, Neva Geisler, Luxelvira Gamboa, Orlalak Phakakayai and Bryant Kuechle); "Play Theory Revisited: Dimensions of Play in Television and Internet Use" (Stanley T. Wearden and Joseph M. Harper); "Demystifying Technology and Empowering Students: A Case Study of Communicative Strategy in a New Media Classroom" (Meredith Li-Vollmer); "An Activist Pedagogical Approach: Creating a Media Resource Kit for Community Organizations" (Linda Jean Kensicki); and "If We Build It, Will They Come? The Effects of Experience and Attitude on Traditional-Aged Students' Views of Distance Education" (Tracy Irani). (RS)

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MC&S Division

Academic Letters of Recommendation: Perceived Ethical Implications and Harmful Effects of Exaggeration

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Paper presented to the Mass Communication & Society Division,
Association for Education in Journalism and Mass Communication
annual convention, New Orleans, LA, August 4-7, 1999

Abstract of

Academic Letters of Recommendation: Perceived Ethical Implications and Harmful Effects of Exaggeration

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This national survey of 150 assistant professors, associate professors and professors in schools and departments of journalism and mass communication focuses on the extent to which faculty members exaggerate recommendation letters, perceive that letters written by their colleagues are exaggerated, and believe that exaggeration is harmful and/or unethical. Results suggest that letters written in behalf of students and faculty colleagues are exaggerated, but perhaps not as much as some might imagine.

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Academic Letters of Recommendation: Perceived Ethical Implications and Harmful Effects of Exaggeration

Outlining the dilemma is relatively easy: A pleasant, enthusiastic student asks you to write a letter of recommendation in support of her application for a job at a television station. The student earned a C in your broadcast journalism class and a C+ in your media and society class, suggesting some intelligence, diligence, and motivation, but certainly not as much as many others in the classes. The student shows you a resume that lists employment as a night clerk for three years at a local motel, and a couple of months work for the campus newspaper, sound evidence of motivation to finish college, but not compelling evidence of commitment to her field.

Another dilemma: A colleague whom you like, but don't particularly respect, will not earn tenure in your program and is seeking employment elsewhere. He has a reputation for organizing his classes poorly--for returning papers late, making major assignments late in the term, and being unprepared for class--for shirking committee obligations, for dumping large jobs on the staff and imposing same-day deadlines, for creating emergencies for others through his own incompetence. The colleague asks you to recommend him for a job he desperately needs if he is to remain in teaching.

These hypothetical dilemmas are not unusual. Communication faculty members frequently are asked to write recommendation letters, and the circumstances are sometimes difficult.

Letter writers may be inclined to inflate recommendations for students and colleagues they like, partly because the practice, as Sissela Bok has noted, seems to the writers to have no harmful effect, and partly because others are inflating their

recommendations: "In the harsh competition for employment and advancement, such a gesture is natural. It helps someone, while injuring no one in particular, and balances out similar gestures on the part of many others."[1]

Inflated recommendations are harmful, however, in many ways. First, some applicants for jobs, scholarships, graduate programs, internships, faculty development leaves, or fellowships have an unfair advantage over equally qualified applicants simply because they can submit exaggerated recommendations. A faculty member who inflated a recommendation for the student-night clerk, for example, might see her get a job over a better candidate--simply because the faculty member decided to inflate his evaluation. No harm seems to be done because the faculty member never meets the second candidate, but harm inevitably is done.

Second, those who inflate recommendations sometimes are embarrassed when the exaggeration is exposed. Suppose the faculty member writes for his untenureable colleague a favorable recommendation, one that appraises the quality of his teaching as "outstanding." If the untenureable colleague secures a teaching position elsewhere and does not alter his classroom and work habits, the recommending faculty member has helped to insure that (1) a poor instructor will continue to inflict himself upon students, and that (2) faculty at the employing institution will lose respect for the recommending faculty member and his or her institution because they will perceive they have been lied to or misled.

Third, a faculty member who writes an inflated recommendation for a colleague who is seeking tenure or promotion might later regret obscuring the candidate's weak points and inflating the candidate's strong points. The candidate

might, in fact, gain tenure or promotion and then, over a period of years, weaken the academic unit's teaching, research, and service mission.

Fourth, inflated recommendations tend to force others to inflate their recommendations in a continuing spiral of dishonesty. Bok describes the problem quite well:

> Take, for instance, a system where all recommendations given to students are customarily exaggerated--where, say, 60 percent of all graduates are classified as belonging to the top 10 percent. If a professor were to make the honest statement to an employer that a student is merely among the top 60 percent, he might severely injure that student's ability to find work, since the statement would not be taken at face value but would be wrongly interpreted to mean that his real standing was very near the bottom.[2]

In this instance, honesty might well victimize an innocent, reasonably capable student. For some faculty members, the dangers of the inflated recommendation are outweighed by the danger to an innocent individual of an honest assessment. When that individual is looking for work, he or she is competing with people for whom inflated recommendations have been written.

In this study of the complex, confusing process of producing and interpreting letters of recommendation, we asked a sample of journalism and mass communication faculty members to respond to a series of statements designed to answer four research questions: To what extent and under what circumstances do faculty members perceive that (Q1) their own letters of recommendation are inflated,

(Q2) letters written by their colleagues are inflated, (Q3) inflated recommendation letters are harmful, and (Q4) it is ethical/unethical to inflate a recommendation?

Method

A random sample of 150 members of the Association for Education in Journalism & Mass Communication was drawn from the *Journalism & Mass Communication Directory*: 50 were assistant professors; 50 were associate professors; and 50 were professors. The respondents were from 150 colleges and universities nationwide.

The four-page questionnaires asked subjects to respond to 10 statements designed to measure the extent to which they perceived that recommendation letters *they* write are exaggerated, and the extent to which letters *their colleagues* write are exaggerated. Subjects also were asked to respond to five statements designed to measure their perceptions about the extent to which inflated letters are harmful, six statements about the ethics of producing inflated recommendation letters, and seven statements about specific problems in the evaluation process. All statements were followed by five-point scales.

Subjects were sent an initial mailing, with a follow-up to non-respondents. Seventy-nine returned completed questionnaires, a 53 percent response rate.

Results

Data relating to the first research question--to what extent and under what circumstances do faculty members perceive that their own letters of recommendation are inflated?--are reported in Table 1 on page 13.

Table One About Here

Approximately a third of the faculty members in this survey acknowledged that they "highly" or "moderately" inflate recommendation letters in support of their colleagues' quests for jobs, grants, or internships. The percentages fall only slightly for letters written in support of applications for leaves, promotion, or tenure, all on-campus activities. Percentages of faculty who said they "highly" or "moderately" inflate recommendations for students are slightly lower; the lowest percentages (i.e., the least exaggeration) are for letters written in support of students seeking admission to graduate programs.

At the other end of the continuum, roughly a quarter of the respondents said they "do not inflate" letters in support of colleagues' requests for jobs, grants, or internships, while more than a third said they do not inflate letters written in support of leaves, promotion, or tenure. Roughly a third said they do not inflate letters for students seeking internships, jobs, or admission to doctoral programs. Approximately a quarter said they do not inflate letters written in behalf of students seeking scholarships or admission to master's degree programs.

The second research question was: To what extent and under what circumstances do faculty members perceive that letters written by their colleagues are inflated? As indicated in Table 2 on page 14, respondents perceive that their colleagues inflate recommendation letters more than they do.

Table Two About Here

Substantially more than half perceive that their colleagues inflate letters written in behalf of their colleagues' applications for jobs, grants, and fellowships.

Almost half perceive that letters written in support of colleagues' applications for leave, promotion, or tenure are "highly" or "moderately" inflated. In general, very few are convinced that letters written in support of colleagues are "not at all inflated." Approximately half seem convinced that letters in support of students are "highly" or "moderately" inflated. A substantial minority is convinced that letters in support of students are "not at all inflated."

It is apparent, in comparing Table 1 and Table 2 results, that respondents perceive that their colleagues inflate recommendation letters more than they do themselves. For example, the percentages of faculty admitting that their letters are "highly inflated" range from 0 to 5.1 percent (Table 1), while the percentages of respondents reporting that their colleagues' letters are "highly inflated" range from 5.5 percent to 20.8 percent (Table 2).

Furthermore, each mean in Table 1 is higher than each corresponding mean in Table 2, suggesting respondents perceive more inflation in their colleagues' letters than in their own. T-tests were used to determine the significance of the differences among the 10 pairs of means in Table 1 and Table 2; all were significantly different, as shown in Table 3 on page 15.[3]

Table Three About Here

Data relating to the third research question--to what extent and under what circumstances do faculty members perceive that inflated recommendation letters are harmful?--are reported in Table 4 on page 16.

Table Four About Here

Respondents almost overwhelmingly see harm in letters in which student or faculty achievements are exaggerated. Roughly 80 percent of respondents "moderately" or "strongly" disagreed with each of the five items asserting that exaggerated recommendation letters cause no harm. Almost none "strongly" agreed with any of the statements, and no more than 22 percent "moderately" agreed that inflated letters cause no harm.

The fourth research question was: To what extent and under what circumstances do faculty members think it is ethical/unethical to inflate a recommendation? Less than 10 percent agreed that it is not unethical to write a recommendation letter that portrays an individual's accomplishments inaccurately, as shown in Table 5 on page 17, but roughly 40 percent agreed that it is not unethical for a letter writer to inflate the achievements and accomplishments of students, and 35 percent agreed it is not unethical to inflate a faculty member's accomplishments.

Table Five About Here

The perceived ethics of writing inflated recommendation letters becomes a bit more murky in other contexts. For example, nearly 40 percent agreed that it is not unethical to write inflated letters because inflation is almost universal, and more than 60 percent said it is not unethical to inflate a letter when the writer thinks the individual is qualified for the position for which he or she has applied.

We also asked subjects to respond to a series of statements about the credibility of recommendation letters, about what a letter writer "owes" to the

person about whom a letter is written, and about why recommendation letters are inflated. Results are reported in Table 6 on page 18.

Table Six About Here

Less than 20 percent of respondents agreed that individuals and institutions that require letters can trust that the letters are not exaggerated, and nearly two-thirds agreed that it is extemely difficult to interpret an evaluation.

More than 80 percent disagreed that individuals who write negative letters are disloyal to their students or colleagues, and that writers who do not inflate the promise of their students or faculty colleagues are doing them a disservice. Fewer than 18 percent agreed with these sentiments. More than half agreed that letters frequently are inflated because writers fear legal retribution for negative comments, while only 24 percent agreed that letters are inflated because writers are intimidated by those about whom they write.

Conclusions

Results suggest that journalism and mass communication faculty members see substantial inflation in recommendation letters written in behalf of students and faculty. For example, huge percentages perceive that letters their colleagues write are "highly" or "moderately" inflated. Further evidence of perceived inflation is found in results suggesting that more than 80 percent disagreed that institutions that require recommendation letters can trust that they are not exaggerated, and more than half agreed that it is difficult to interpret evaluations.

But letters may not be inflated to the extent that our respondents perceive they are. Results suggest that respondents are confident that their own

recommendations are far less inflated than those of their colleagues. Mean scores were significantly lower (suggesting more inflation) when respondents evaluated their colleagues' letters than they were when they evaluated their own letters.

Part of the reason why their own letters are slightly inflated, or, in their eyes, as justifiably inflated, may be that respondents recognize the difficulty in generalizing from past student performance to potential future success. "One is history that you cannot stretch, exaggerate or inflate," one respondent said; "the other is potential that you can only guess about." Another noted:

> With students, "slight inflation" seems justifiable despite inflation in general being a bit unethical, because over the years some students who were only "C" students went on to do well and we received glowing reports from their eventual employers—our assessments at universities are limited, so if a student does at least satisfactory, he/she deserves a little "benefit of the doubt" regarding how well he or she will do. . . .

Another said that "Students change and improve. What I might perceive as a weakness, others might perceive as a strength. (A reporter's job requires a fair amount of independence and the ability to be a self-starter. Some corporations don't like independent thinkers and would look at same as a weakness.)"

Respondents do see harm in exaggerated letters of recommendation. Almost 90 percent disagreed that an inflated letter supporting a faculty member's request for tenure and promotion does not hurt the academic enterprise, and roughly four-fifths disagreed that inflating a student's or faculty member's achievements and promise harms no one. One noted the potential harm to a program and to a

student when he said: "I know that our university program is represented by our graduates working in the field. So I do not wish to lessen our ethos, and neither do I want to cause problems for either employer or graduate by putting people in positions for which I have no evidence they would do well."

Inflating a student's or faculty member's achievements and promise harms the evaluation process in part because no one knows how much letters are exaggerated or how inflation is defined: "The problem is that one person's inflation is another person's accurate judgment," a respondent said.

Respondents tend to see the inflation of achievements as unethical, but large minorities disagree. For example, 40 percent agreed that it is not unethical for a writer to exaggerate a letter about a student, and roughly a third agreed that it is not unethical to exaggerate a letter about a faculty colleague. However, respondents apparently see a difference between *inflating* accomplishments and portraying accomplishments *inaccurately*. Only 7.6 percent agreed that it is not unethical to portray accomplishments inaccurately. One respondent explained what she sees as a difference:

> I emphasize strong points, give reasons for or explanations of weaknesses when I can and always make some comments about the person's personal characteristics. I am trying to paint the best, [most] accurate picture that I can. I am not inflating with untruths, but I am certainly shaping the contents of the letter. . . .

Journalism and mass communication faculty in our study overwhelmingly disagreed that writers of recommendation letters do a disservice to students or

faculty when they do not exaggerate the accomplishments of the letters' subjects. One respondent, however, noted the dilemma of being ethical at a time when letters generally seem to be inflated:

> Writers do not write--or at least should not write--in a contextual vacuum and thereby exhibit total disdain for the sensibilities of their readers. It's easy enough to note that generally all favorable letters contain intentional exaggerations. But how much is discounted by reader X and reader Y--ten percent by one and thirty percent by the other? What level of exaggeration is a writer now morally obliged to put into a recommendation so that the truth about his candidate has a small chance of surfacing these days?

The evalution process is confusing, difficult, and somewhat threatening, our faculty sample suggested, and attitudes tend to be inconsistent and unformed (which, of course, suggests the difficulty of even studying the process). A few candid respondents noted that they might respond differently to statements on a different day, and one addressed the problem of finding "truth" under difficult circumstances:

> Of course, one wants to tell the exact truth about students and colleagues when writing recommendations. But that truth cannot be told because it cannot be found. Any writer attempting to tell the truth *without* accounting for the reading of the letter by readers who are continuously interpreting words and recreating contexts and analyzing the motives of the sender is not telling the truth but distorting it. . . . What assumptions will they make about my assumptions, unknown as we are to each other?"

Endnotes

[1]Bok, Sissela, *Lying: Moral Choice in Public and Private Life.* New York: Pantheon Books, 1978, p. 68.

[2]*Ibid.*, pp. 68-69.

[3]The t-test is described in *SPSS Reference Guide* (Chicago: SPSS, Inc., 1990).

Table 1

Faculty Perceptions of Inflation In Their Own Letters of Recommendation

	Highly Inflated	Moderately Inflated	Slightly Inflated	Not at All Inflated	Mean
(1) My letters written in support of my colleagues' job searches are:	4.2	29.6	42.3	23.9	2.9
(2) My letters written in support of my colleagues' applications for internal or external grants are:	3.1	32.3	43.1	21.5	2.8
(3) My letters written in support of my colleagues' applications for external internships or fellowships are:	3.0	31.3	41.8	23.9	2.9
(4) My letters written in support of my colleagues' applications for internal research or study leave are:	2.9	24.3	38.6	34.3	3.0
(5) My letters written in support of my colleagues' quests for promotion and tenure are:	4.2	23.6	36.1	36.1	3.0
(6) My letters written in support of students seeking internships are:	1.3	26.9	39.7	32.1	3.0
(7) My letters written in support of students seeking scholarships are:	1.3	30.4	43.0	25.3	2.9
(8) My letters written in support of students seeking jobs are:	5.1	28.2	28.2	38.5	3.0
(9) My letters written in support of students seeking admission to master's degree programs are:	--	26.3	46.1	27.6	3.0
(10) My letters written in support of students seeking admission to graduate or professional programs beyond the master's degree are:	1.4	23.6	44.4	30.6	3.0

Table 2

Faculty Perceptions of Inflation In Their Colleagues' Letters of Recommendation

	Highly Inflated	Moderately Inflated	Slightly Inflated	Not at All Inflated	Mean
(1) Other professors' letters written in support of their colleagues' job searches are:	10.0	47.1	37.1	5.7	2.4
(2) Other professors' letters written in support of their colleagues' applications for internal or external grants are:	15.7	47.1	31.4	5.7	2.3
(3) Other professors' letters written in support of their colleagues' applications for external internships or fellowships are:	15.4	41.5	36.9	6.2	2.3
(4) Other professors' letters written in support of their colleagues' applications for internal research or study leave are:	11.6	37.7	42.0	8.7	2.5
(5) Other professors' letters written in support of their colleagues' quests for promotion and tenure are:	20.8	26.4	29.2	23.6	2.6
(6) Other professors' letters written in support of students seeking internships are:	11.3	36.6	32.4	19.7	2.6
(7) Other professors' letters written in support of students seeking scholarships are:	11.1	40.3	34.7	13.9	2.5
(8) Other professors' letters written in support of students seeking jobs are:	5.6	37.5	40.3	16.7	2.7
(9) Other professors' letters written in support of students seeking admission to master's degree programs are:	5.5	43.8	35.6	15.1	2.6
(10) Other professors' letters written in support of students seeking admission to graduate or professional programs beyond the master's degree are:	7.5	34.3	37.3	20.9	2.7

Table 3

Mean Responses to Statements about Inflation in Colleagues' Letters, Own Letters

	Colleagues' Letters	Own Letters	t-values	P
(1) My/other professors' letters written in support of my/their colleagues' job searches are:	2.4	2.9	4.9	.000
(2) My/other professors' letters written in support of my/their colleagues' applications for internal or external grants are:	2.3	2.8	5.4	.000
(3) My/other professors' letters written in support of my/their colleagues' applications for external internships or fellowships are:	2.3	2.9	5.1	.000
(4) My/other professors' letters written in support of my/their colleagues' applications for internal research or study leave are:	2.5	3.0	5.9	.000
(5) My/other professors' letters written in support of my/their colleagues' quests for promotion and tenure are:	2.6	3.0	3.9	.000
(6) My/other professors' letters written in support of students seeking internships are:	2.6	3.0	3.8	.000
(7) My/other professors' letters written in support of students seeking scholarships are:	2.5	2.9	4.4	.000
(8) My/other professors' letters written in support of students seeking jobs are:	2.7	3.0	2.7	.008
(9) My/other professors' letters written in support of students seeking admission to master's degree programs are:	2.6	3.0	4.4	.000
(10) My/other professors' letters written in support of students seeking admission to graduate or professional programs beyond the master's degree are:	2.7	3.0	3.3	.002

Table 4

Perceived Harmful Impact of Inflated Letters of Recommendation

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Mean
(1) A recommendation letter in which a student's achievements and promise are exaggerated harms no one.	--	18.2	45.5	36.4	3.2
(2) A recommendation letter in which a faculty member's achievements and promise are exaggerated harms no one.	--	18.7	45.3	36.0	3.2
(3) A recommendation letter in which a student's achievements and promise are exaggerated does not harm the evaluation process.	--	21.1	50.0	28.9	3.1
(4) A recommendation letter in which a faculty member's achievements and promise are exaggerated does not harm the evaluation process.	--	21.1	47.4	31.6	3.1
(5) A recommendation letter in which the writer exaggerates the achievements and promise of a faculty member who is seeking promotion and tenure does not harm the academic enterprise.	1.3	11.7	33.8	53.2	3.4

Table 5

Perceptions of the Ethics of Inflating Letters of Recommendation

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Mean
(1) It is not unethical for the writer of a recommendation letter to inflate the achievements and promise of the student about whom the letter is written.	2.6	37.7	36.4	23.4	2.8
(2) It is not unethical for the writer of a recommendation letter to inflate the achievements and promise of the faculty member about whom the letter is written.	1.3	33.8	40.3	24.7	2.9
(3) It is not unethical for the writer of a recommendation letter to include negative remarks in the letter, even when the writer has not told the subject about the negative content.	20.8	32.5	24.7	22.1	2.5
(4) It is not unethical to write an inflated recommendation letter because inflated recommendations are nearly universal.	5.1	34.6	34.6	25.6	2.8
(5) It is not unethical to inflate the achievements and promise of an individual when the letter writer thinks the individual is qualified for the position, scholarship or program for which he or she has applied.	7.8	57.1	23.4	11.7	2.4
(6) It is not unethical to write a recommendation letter that portrays an individual's accomplishments inaccurately.	1.3	6.3	13.9	78.5	3.7

Table 6

Credibility of Letters, Reasons for Inflation, Writers' Obligations to Candidates

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Mean
(1) Admission committees, potential employers, foundations and other institutions that require letters of recommendation can trust that comments expressed in those letters are not exaggerated.	1.3	15.4	61.5	21.8	3.0
(2) It is extremely difficult to interpret an evaluation contained in a letter of recommendation.	28.2	34.6	26.9	10.3	2.2
(3) Individuals who write negative recommendation letters are disloyal to their students or colleagues.	5.2	13.0	40.3	41.6	3.2
(4) The writer of a recommendation letter who does not exaggerate the promise and accomplishments of a student is doing that student a disservice.	1.3	16.7	29.5	52.6	3.3
(5) The writer of a recommendation letter who does not exaggerate the promise and accomplishments of a faculty colleague is doing that colleague a disservice.	3.8	14.1	37.2	44.9	3.2
(6) Letters of recommendation frequently are inflated because the writers fear legal retribution for negative comments.	13.3	38.7	29.3	18.7	2.5
(7) Letters of recommendation frequently are inflated because the writers are intimidated by those about whom they are writing.	1.3	22.4	36.8	39.5	3.1

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It's All About the Information

Salience Effects on the Perceptions of News Exemplification

Student Paper
Submitted to the Communication Theory and Research Division of
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for Presentation at the AEJMC Annual Convention
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RUNNING HEAD: Salience Effects on the Perceptions of News Exemplification

It's All About the Information

Salience Effects on the Perceptions of News Exemplification

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ABSTRACT

This study expands upon previous base rate v. exemplification research in examining salience effects on perceptions of mediated messages. Using ecologically valid news stimuli, different involvement measures are shown to interact with base rate and exemplified information with interesting implications. Results indicate that the persuasive and retentive effects of base rate and exemplified information depend upon whether salience is cognitive or affective, supportive or refutative. Valence is nullified as an important factor in message acceptance.

It's All About the Information

Salience Effects on the Perceptions of News Exemplification

One need only to pick up a newspaper to see that standard practices of journalism consist of offering the audience a combination of purely descriptive or quantitative information and more colorful or anecdotal information. This practice of providing readers with both base rate and exemplified information has gained considerable attention from the research community, which has striven to answer, among other questions, how the audience uses these varying types of information to formulate judgements. There is, however, much debate within this research community over exactly what types of influences base rate and exemplified information have over media audiences given different situations (Zillmann & Brosius, in press).

Baesler and Burgoon (1994), for example, canvassed the research ground and found an ample population of media-based studies that evidenced the divergent effects of base rate and exemplified information on audience perceptions. Of the sampled studies, all of which combined base rate and exemplified data into one stimulus, thirteen of the studies found the exemplified parts of the stimulus material to be more persuasive than the base rate information. Another two studies, however, found the base rate data to be more persuasive than the exemplified information. Finally, Baesler and Burgoon found four studies that reported no significant difference in the persuasive effects of either base rate or exemplified data on audience perceptions of the given issues. In short, there is a plethora of questions regarding the effects of base rate and exemplified data on the media audience, many of which insinuate that there are other factors that will determine how base rate and exemplified data may be used in certain situations. Indeed, more recent

media studies, as well as literature discussing vividness and persuasion, suggest that one of the most powerful factors in determining the persuasive effects of base rate and exemplified information may be salience. However, the verdict is still out regarding just how base rate and exemplified data affect audience perceptions of mediated information.

Media Studies. One of the more prominent studies regarding base rate versus exemplification in the mass media is that of Gibson and Zillmann (1994). Gibson and Zillmann presented their research participants with an ecologically valid, journalistic story on carjacking, a story that utilized base rate and exemplified text in combination. In addition, the authors varied the level of precision of each type of text in a factorial pattern. What they found was that participants, regardless of the amount of distortion engineered into each type of text, strongly favored the exemplified information as shown in their elevated perceptions of the risk of being carjacked. This result is representative of the majority of studies found by Baesler and Burgoon (1994) that claim that exemplification is the more persuasive form of media.

Perhaps an explanation for this finding can be offered by Kopfman et al. (1998). In this study, Kopfman et al. isolated the base rate information from the exemplification, presenting research participants with either statistical information or a form of narrative storytelling. Similar to the findings by Gibson and Zillmann (1994), participants in this study exhibited strong affective reactions towards the exemplified story. However, Kopfman et al. also discovered that the statistical data, the base rate counterpart, more strongly influenced cognitive reactions.

Similar to the above study, Baesler and Burgoon (1994) presented their base rate data and exemplified information in isolation. In their test of issue perception, Baesler

and Burgoon found that the statistical information condition was more persuasive than the individuating narrative condition, an opposite finding of Gibson and Zillmann (1994). However, Baesler and Burgoon also noted that base rate information that was more vivid outperformed more pallid base rate data, which introduces the concept of vividness as overcoming the simple effects of base rate or exemplified information.

Brosius and Bathelt (1994) also introduced vividness into their study, applying vividness to the exemplified information rather than the base rate data. Specifically, they purposely designed their exemplified condition to include individuating information that was "less valid but more vivid" (p. 48), and conversely created their base rate counterpart to be general descriptives of the same issue. Again, presenting their conditions in a journalistic fashion, Brosius and Bathelt found that the exemplars had a stronger influence on issue perception, as well as on personal opinions toward the issue. This finding provides further evidence that vividness may be the underlying mechanism that shoulders exemplification, usually more vivid than base rate data, as the more powerful influence on perceptions of the media audience.

Vividness. Fiske and Taylor, in 1991, wrote that theory and common sense suggests that vividness has a major influence on its audience, and then stated that the research suggests the contrary. Still, Eagly and Chaiken (1993) offered that there was a small body of research that showed that vividness, represented by such texts as eyewitness testimonies and health appeals, could exert "genuine judgmental effects under certain conditions" (p. 279). Indeed, Fiske and Taylor (1991) reported that vivid information does have a measurable emotional impact, the affective effects of which can impact judgment, as illustrated in Kopfman et al. (1998), for example. In contrast, Frey

and Eagly (1992) reported that vivid and pallid information can be equally persuasive when the consumer is obliged to pay attention, whereas pallid information can be more persuasive in incidental encounters (in Eagly & Chaiken, 1993).

Besides persuasive tendencies, Fiske and Taylor (1991) argued that vivid information, which is, by nature, more inclined to create an internal visual representation, should be encoded more fully, thus making it more memorable. However, they also acknowledged the observation by Petty and Cacioppo (1979) that vivid advertisements may trigger more peripheral cues, leading to less recollection of the cogent arguments (in Fiske & Taylor, 1991). Fortunately, Petty and Cacioppo have an answer as to why this disparity in recollection is possible, an answer which incorporates the observations on attention by Frey and Eagly (1992) and introduces a new factor as a possible explanation for the differing methods of information processing.

Elaboration Likelihood Model of Persuasion. Petty and Cacioppo (1986) said of message processing that "[i]n relatively *objective* processing, some treatment variable either motivates or enables subjects to see the strengths of cogent arguments and the flaws in specious ones, or inhibits them from doing so" (p. 136). The authors also noted a positive correlation between objective message processing and message involvement. Specifically, as message involvement, or as the motivation to process a message increases, the central route to persuasion (versus the peripheral route) is engaged, leading to the more thorough processing of message arguments. Conversely, as the motivation to process arguments decreases, the peripheral route is employed, resulting in a decreased recollection of the cogent arguments. These observations, represented in Petty and Cacioppo's (1986) Elaboration Likelihood Model of Persuasion, indicate that the

motivation to process, hypothesized to include personal relevance, or salience, may be a key determinant of how persuasive and memorable a message can be.

Salience. The link between salience and information processing was, perhaps, first loudly proclaimed in Anderson's information integration theory (in Eagly & Chaiken, 1993). Anderson regarded salience in terms of attention, defining it as "a determinant of information acceptance" (in Eagly & Chaiken, 1993, p. 263). In conjunction, Anderson proposed that salience was a component of valuation, one of two operations used to formulate or alter attitudes via his theorized process by which attitudes are created and altered via the integration of new information with previously held attitudes. This proposed influence of salience on message processing and attitude formation has been examined in a handful of base rate versus exemplification studies.

One such study by Krupat et al. (1997) offers compelling evidence that salience does, indeed, lead toward a more centrally processed message in which base rate data is the more "accepted" information. Krupat et al. pitted anecdotal information against statistical information, both of which described one of three automobiles. The researchers manipulated research participant salience by manufacturing familiarity and expectation levels for each of the three featured vehicles. Krupat et al. then presented the participants with either a base rate-only text, an exemplar-only text, or a text that combined the base rate and exemplified information. The researchers found the statistical, base rate data to be more persuasive than either the exemplification or the combined condition when the information was highly salient, or "comprehensible and diagnostically relevant" (p. 345).

Jepson and Chaiken (1990) also tested salience, using differing levels of fear as their measure of message involvement (in Eagly & Chaiken, 1993). Jepson and Chaiken presented research participants with information regarding cancer. In an interesting contrast to the findings of Krupat et al. (1997), Jepson and Chaiken's results illuminated that participants registering high in fear recalled fewer arguments, listed fewer message-related cognitions, yet were more persuaded by the message than the low fear participants. Peculiarly, the emotional involvement led to more of an acceptance of the fear appeal, yet decreased evidence of central processing.

This result is not contrary to the thoughts of Anderson, who anticipated this effect regarding salience. He noted that salience, seen in terms of attentional factors, "...may contribute to the well-known tendency in impression formation research for negative information to be weighted more heavily than positive information" (in Eagly & Chaiken, 1993, p. 250-251). This hypothesis would explain the disparate results of the above salience studies regarding the persuasive powers of the exemplified versus the base rate information. Regarding message memorability, the disparity may be reasoned using Petty and Cacioppo's (1986) posit that "[i]n relatively biased processing some treatment variable either motivates or enables subjects to generate a particular kind of thought in response to a message, or inhibits a particular kind of thought" (p. 136). Perhaps more emotional involvement, (or more vivid appeals?), produces a biased form of processing that is illuminated by the research conducted by Jepson and Chaiken (in Eagly & Chaiken, 1993). However, evidence (see Krupat et al., 1997) and theory suggests that less emotional, yet personally relevant issue involvement may lead to the use of the central route to persuasion, as well as greater recollection of message arguments.

Purpose of Study. The literature in media studies, psychology, and persuasion, clearly indicate that the jury is still out regarding the effects of involvement, which can be considered a type of salience, on the persuasive and retentive power of different kinds of information. Most evidence suggests that exemplars are more persuasive than base rate data under certain conditions. However, the research appears to favor base rate information over the more vivid exemplification in terms of persuasion and recollection under high involvement, although this type of involvement apparently needs to be less emotional in its personal relevance (see Krupat et al. 1997). Thus, two research questions arise from the literature review. First, it must be determined whether the base rate or the exemplified information will prove to be more persuasive under the influence of different kinds of issue involvement. Second, it must be determined whether the recollection of the base rate and the exemplified information will parallel that of their persuasive effects at each level of involvement, or if recollection of each condition will simply increase with increased involvement, much like the ELM suggests.

The present study takes the methodologies of Gibson and Zillmann (1994) and Krupat et al. (1997) and applies them toward a determination of the interactive effects of salience and base rate versus exemplified information on persuasion and recall. It defines base rate information as quantified descriptions and exemplified information as anecdotes or stories based upon the definitions utilized by Baesler and Burgoon (1994). In a slight deviation from the majority of methodologies, however, the base rate data presented in this study's stimuli argue an opposing side of the presented issue than does the exemplified information. The purpose of this is two-fold. First, it is surmised that persuasive tendencies will be more discernable if the two types of information are placed

in opposition. Second, the opposing valences of these texts allows for observation of a combined base rate and exemplar condition in terms of McGuire's inoculation theory.

William McGuire proposed of two-sided stories that "attitudes and beliefs are vulnerable to persuasive attack by opposing arguments and protection against such attacks may be achieved by exposing people to weakened forms of the attacking message" (in Eagly & Chaiken, 1993, p. 561-562). This proposition, the crux of inoculation theory, is a child of Carl Hovland and his associates. Born from Hovland's 1953 Yale studies, the proposition hails the Yale studies' conclusion that two-sided messages were more persuasive than one-sided stories due to a decreased audience motivation for counterargument (in Eagly & Chaiken, 1993). In other words, a two-sided story may act as an intensifier for the supportive information, allowing it to emerge as the more persuasive text.

Finally, different measures of involvement are necessary in honor of the variant results of Krupat et al. (1997), who measured involvement in terms of familiarity and expectations concerning a product, and Jepson and Chaiken (in Eagly & Chaiken, 1993), who used the very emotional fear of cancer as an involvement measure. In addition, a second type of measure may be helpful in testing the assumed emotional involvement of the research participants, as well as comparing the results of an interaction between the different measures of salience (involvement) and the information condition. In this case, because the persuasive power of exemplification involves a belief or connection with the characters of the anecdote, empathy appears to be the best indicator of an emotional involvement, and the best covariate and co-factor for this base rate versus exemplification study. Thus, a fourth research question emerges about whether empathy will have a

clarifying or intensifying effect in conjunction with involvement in determining the persuasive and retentive strengths of base rate data, exemplified data, and base rate and exemplified data in combination.

METHOD

Overview. To test the three research questions, three experimental conditions were selected under which research participants were exposed to print stimulus material. These participants were also categorized as either having high or low involvement (salience) levels regarding the stimulus issues, and as measuring high or low on an empathy scale. The resulting 3x2x2 design assessed the resulting risk perception (see Gibson & Zillmann, 1994) and recall of the participants based on whether they read a base rate, an exemplified, or a combined news story, and whether they measured high or low in involvement and empathy. In each session, participants completed questionnaires that measured the independent and dependent variables. In addition, participants responded to questions designed to mask the intent of the study.

Research Participants. Research participants were recruited from large fundamentals courses offered by a communication department in a major southeastern university. Seventy-nine students agreed to participate, a sum that was divided into thirds and assigned at random to one of the three stimulus conditions. Of the total sample, 62 were female and 17 were male. For deliberate reasons, further demographic information such as ethnicity and income was not solicited. It can be noted, however, that the students in the sample ran the undergraduate gamut from freshman to senior level.

Procedure. In each of the selected classes, a facilitator was introduced by the instructor at the end of the class period and was subsequently given the opportunity to

persuade students to remain in the classroom and participate in the study. In some cases, students were offered extra credit in exchange for their participation. However, other instructors did not offer students such an exchange.

The facilitator waited for the instructor and disinclined students to leave the classroom. Then, those students wishing to participate in the research were given a manila folder that contained a packet representing one of three conditions, distributed in a random order. The facilitator gave explicit directions regarding the stipulations of the consent form, the employment of the packet, and the intended environment of the session—completion in a quiet, confidential manner.

At this time, a second facilitator entered the scene and passed out a second packet to the participants. This packet was introduced as an element from a separate project that aimed to assess the current attitudes, trends, and life styles of college students. Students were asked to indulge the second facilitator, fill out this packet, and slide it into the manila folder behind the first packet. All of the participants consented to this indulgence.

Once this step was completed, participants were asked to address the first packet. The first facilitator asked the participants to read the first news story. After everyone had completed this task, the facilitator asked the participants to turn the page and complete the revealed evaluation. The execution of the packet continued in this fashion until all stories were read and all evaluations were completed. Participants were finally asked to enclose all paperwork in their manila folders and to leave them behind for collection.

Packet Contents. The first packet, delivered to participants inside the manila folders, contained one of three news stories representing one of the three experimental conditions. Measures for the dependent variables were also included after the stimulus

material. A third inclusion, a news evaluation, was inserted after each story to serve both as a mask and as a separator between the stimulus material and the dependent measures. The final inclusion was the consent form, the cover sheet for the packet.

The second packet, which was actually completed first, housed the independent and masking questionnaires. The first evaluation contained two measures of issue salience for each stimulus. The second and third questionnaires covered empathy and quantitative representations in the media, respectively. Finally, a consent form was included in this packet.

Stimulus Material. Two news stories, each with three versions, were written to provide ecologically valid stimulus material for the three conditions. The first version of each story, corresponding with Condition 1, contained three paragraphs of base rate information sandwiched between a synoptic introduction and conclusion. The second version, written for Condition 2, contained three paragraphs of exemplified information in between the common introduction and conclusion. The third version for Condition 3 combined the base rate paragraphs from the first version and the exemplified paragraphs from the second version. In addition, paragraphs alternated between base rate and exemplified information so that no two paragraphs contained the same type of information. Again, the same introduction and conclusion was used for the respective story. Consequently, the version in Condition 3 had three more paragraphs than either Condition 1 or 2.

The first news story examined safety issues of roller coasters. The introduction offered the traditional case information, highlighting several occurrences of real roller coaster accidents previously reported in legitimate newspapers. The base rate

information consisted of fictitious interviews with experts who provided pallid, statistical information supporting the safety of roller coasters. Conversely, the exemplified information presented the fictitious testimony of people who had witnessed roller coaster accidents and were now wary of roller coaster riding. Finally, the conclusion offered information about state governmental actions regarding roller coaster safety violations.

The second news story introduced a new diet pill. The introduction of this story described the origin, the makers, and the claims associated with the imaginary pill. Fictitious base rate information quoted experts who used statistical information as evidence that the diet pill was either ineffective or potentially harmful. Fictitious exemplified information quoted participants in the preliminary study or friends of these participants, all of which testified to the effectiveness and appeal of the pill. The conclusion simply stated information on the future availability of the product.

Independent Variables. Condition was the first independent factor, manufactured experimentally by randomly assigning equal numbers of participants one of the three versions of each packet. Condition 1 consisted of base rate information only, Condition 2 consisted of exemplified information only, and Condition 3 consisted of both base rate and exemplified information. Between 25 and 28 participants fell under each condition.

Issue salience was the second independent factor used in the analysis. This measure was assessed via the first completed questionnaire, which contained salience measures for both the first and second stories. The first portion of this evaluation asked participants to rate how appealing and how safe nine different extreme sports were to them based on a scale from 0 to 10. Included in this list were such activities as rollerblading, extreme skiing, and roller coaster riding. From this list, the two questions

soliciting opinions regarding the personal appeal and perceived safety of roller coasters was used as the involvement measures for the roller coaster stimulus.

The second portion of the evaluation asked participants to rate how important in terms of looks and health six different activities were to them, also based on a scale from 0 to 10. Items in this portion included jogging, weightlifting, and dieting, among other weight loss and exercise items. Parallel to the salience measures for the roller coaster story, the perceived importance of dieting to overall health and the more personal importance of dieting to physical appearance were utilized for the diet pill story.

An empathy questionnaire provided the third independent variable for the study. The empathy evaluation consisted of a sixteen-item scale (Tamborini & Mettler, 1990) that asked participants to respond to various statements utilizing five-point response scales ranging from Strongly Agree to Strongly Disagree. Statements assessed such attitudes as perspective, sensitivity, and sympathy. These items were summated and reserved for use as an independent factor and as a potential covariate for recall tests.

Dependent Measures. The dependent variables for the analysis were information recall and issue perception. After each story was read and evaluated, two surveys asked participants to judge the threat of partaking in the respective practice, be it riding roller coasters or taking diet pills. Questions focused on the perceptions of risk to the general public, to regular or occasional partakers, or to themselves. In addition, participants were asked to evaluate the effectiveness of existing agencies and laws meant to ensure the safety of riding roller coasters or taking diet pills. Three final questions asked participants to rate the likelihood of their partaking in the respective action or of their recommending that others partake in that action in the near future. In total, each story

was partnered with seven issue perception questions, the response choices of which consisted of a 0-to-10 scale ranging from no threat to extreme threat.

The final two surveys measured information acquisition for each news story. Each survey asked participants to recall specific facts from each story, aided by the multiple-choice format of the evaluation. Twelve questions were created for each story, with six questions specifically targeting base rate paragraphs and six questions targeting the exemplified text. In observance of the conditions, participants in Condition 1 only received the six base rate questions, participants in Condition 2 received the six exemplification questions, and those in Condition 3 received all twelve questions.

RESULTS

Operationalization of Independent Variables. For the roller coaster story, salience was operationalized via the two single-item measures of involvement regarding the personal appeal and perceived safety of roller coasters. Likewise, salience for the diet pill story was operationalized using the two single-item involvement measures of the importance of dieting to personal looks and general health. To create a two-level factor, these four measures of involvement were subjected to a median split and subsequently divided into a high involvement and a low involvement group.

Responses from the empathy questionnaire were scored using a 1 to 5 scale, with *Strongly Disagree* scored as 1 and *Strongly Agree* scored as 5. Scores were then added to create a composite empathy score for each participant. Because a two-level factor was needed to cross empathy, salience, and condition, empathy was also subjected to a median split and separated into high and low empathic groups. However, the original scores were retained for possible use as a covariate if needed in future tests.

Operationalization of Issue Perception. The issue perception measure for the roller coaster story was a factor score created from the results of a principle component analysis (PCA) performed on the seven items concerning roller coaster risk. The PCA with Equamax rotation yielded a strong first factor consisting of perceived risk to regular riders, occasional riders, and to the self. This factor, which accounted for 46.383% of the variance ($\alpha = .876$), was chosen as the dependent variable for the roller coaster statistics. The resulting factor loadings for this analysis (see Table 1), as well as the alpha levels and variance accounted for, are presented below.

The issue perception measure for the diet pill story was a factor score created in the same manner as that for the roller coaster story. A PCA with Equamax rotation performed on the seven diet pill risk perception items yielded three similar factors. As with the above measure, the first factor consisting of perceived risk to regular pill takers, occasional takers, and to the self was used to create the factor scores for the dependent variable. Factor loadings, alpha levels, and accounted variance are in Table 2 below.

Operationalization of Recall. Items asking participants to recall various facts presented in the stimulus material were awarded a 1 for a correct answer and a 0 for an incorrect answer. These scores were then summed to create a composite recall score for each participant. Furthermore, each score was calculated as a percentage-correct, and Condition 3 scores were additionally calculated as percentages of correct base rate and exemplified aided recollections. This step allowed comparisons between each group to see who learned more of which type of information.

Table 1

Factor Loadings for the Roller Coaster Issue Perception Items

Item	Factor Loadings		
Danger posed to occasional roller coaster riders	.891		
Danger posed to regular roller coaster riders	.875		
Likelihood of personal harm while riding a roller coaster	.858		
	α = .876		
Likelihood of riding a roller coaster in the near future		.948	
Likelihood of recommending riding to friends/family		.887	
		α = .893	
Effectiveness of park owner safety measures			.936
Effectiveness of government safety measures			.914
			α = .859
% Variance Accounted For	46.383%	24.980%	14.580%

Note. Factors were extracted via a principle component analysis with Equamax rotation.

Table 2

Factor Loadings for the Diet Pill Issue Perception Items

Item	Factor Loadings		
Danger posed to regular diet supplement takers	.850		
Danger posed to occasional diet supplement takers	.843		
Likelihood of personal harm in taking diet supplements	.802		
	α = .808		
Effectiveness of government safety measures		.947	
Effectiveness of pharmaceutical safety measures		.930	
		α = .888	
Likelihood of taking diet supplements in the near future			.909
Likelihood of recommending use to friends/family			.865
			α = .796
% Variance accounted for	42.893%	23.099%	15.505%

Note. Factors were extracted via a principle component analysis with Equamax rotation.

Roller Coaster Risk Perception Analysis. Two univariate ANOVAs were run using condition, involvement, and empathy as independent variables and risk perception as the dependent variable. The first ANOVA crossed condition (3 levels) with personal roller coaster appeal (2 levels) and empathy (2 levels). This test yielded a significant main effect for appeal ($F = 26.082$, $p < .01$) and a significant main effect for empathy ($F = 4.554$, $p < .05$), in which both high appeal and high empathy coincided with increased perceptions of risk. More importantly, the test yielded a significant interaction between condition and appeal ($F = 3.417$, $p < .05$), the results of which are presented below.

Table 3

Mean Risk Perception Scores for Condition x Appeal Interaction

Condition	Low Appeal	High Appeal	Sig. by Condition
Base Rate Only	-0.027^{A}	0.385	not sig.
Exemplification Only	-0.517^{AB}	0.487	$p < .01$
Base Rate and Exemplification	-1.145^{B}	0.523	$p < .01$
Sig. per Level of Appeal	$p < .01$	not sig.	

Note. Means with different superscripts within a shared column significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

As is apparent from the data, respondents in both the exemplar and base rate plus exemplar conditions significantly had significantly higher risk perceptions when measuring high in appeal versus low in appeal. Meanwhile, groups reading only the base rate information remained steady in risk perceptions despite levels of involvement. In addition, those with little appeal for coasters who read the two-sided story gave risk a significantly lower rating than did those with low appeal and in the base rate only condition. High appeal, however, resulted in a convergence of the three conditions in

terms of risk. It is important to remember here that the exemplars in the roller coaster story were negative regarding coaster safety and that the base rate data ensured safety.

The second ANOVA crossed condition with perceived roller coaster safety and empathy. Again, a significant main effect was found for perceived safety ($F = 14.377$, $p < .01$), in which a lower faith in roller coaster safety resulted in higher perceptions of risk. In addition, an interaction between condition and involvement was found ($F = 2.499$) to be significant at the $p < .10$ level, with significant differences between cells at the $p < .01$ level. The results are presented in Table 4 below.

Table 4

Mean Risk Perception Scores for Condition x Safety Interaction

Condition	Low Safety	High Safety	Sig. by Condition
Base Rate Only	0.546	-0.734	$p < .01$
Exemplification Only	0.100	-0.066	not sig.
Base Rate and Exemplification	0.310	-0.883	$p < .01$
Sig. per Level of Safety	not sig.	not sig.	

Note. Means significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

Here, the base rate and base rate with exemplar conditions significantly decreased in perceived risk from measures of low faith in coaster safety to high measures of faith in coaster safety. The exemplification-only condition witnessed no change in risk perception according to the level of involvement. Likewise, conditions were not significantly different from each other when comparing risk within the low safety faith or high safety faith groups. Here, in opposition to the above results, it appears that the only effect was that in which respondents were more persuaded by the base rate information

depending upon whether they thought that roller coasters rated low in overall safety or high in safety.

Diet Pill Risk Perception Analysis. The results for the diet pill story were similar. In the ANOVA that crossed condition, empathy, and the general importance of dieting to health, an interaction was found between condition and health ($F = 2.908$, $p < .10$), as well as between condition and empathy ($F = 4.304$, $p < .05$). The results of the condition X health interaction (shown in Table 5 below) indicate that the base rate data becomes more prominent when dieting is thought to be more important to overall health.

Table 5

Mean Risk Perception Scores for Condition x Health Importance Interaction

Condition	Low Health	High Health	Sig. by Condition
Base Rate Only	-0.339	0.498^{A}	$p < .05$
Exemplification Only	0.002	-0.398^{B}	not sig.
Base Rate and Exemplification	0.257	0.042^{AB}	not sig.
Sig. per Level of Health Importance	not sig.	$p < .05$	

Note. Means with different superscripts within a shared column significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

This interaction parallels the findings of the roller coaster test of condition X safety, in which the significant effect is found within the base rate condition. Accompanying this effect, the condition X health ANOVA also shows a significant difference in risk perception within the high-health-importance group between respondents in the base rate condition and respondents in the exemplification condition. Specifically, under high involvement, those in the base rate condition estimated higher risks than those in the exemplification condition. Again, it warrants repeating that the

base rate data in the diet pill story portrayed diet supplements negatively and that the positive exemplars praised them.

The interaction between condition and empathy for health involvement mirrors that of the interaction between condition and empathy for the involvement measure regarding dieting and its importance to personal looks ($F = 2.711$, $p < .10$). Tables 6 and 7 display the means for the condition X empathy interaction for the health and looks tests, respectively. (No other effect was found for personal looks and condition regarding risk.)

In these two interactions involving empathy, high measures of empathy result in the accentuated persuasive power of exemplars, evident in the significant decrease in risk perception among high empathizers who read the exemplar-only story versus low empathizers who read the same. Incidentally, this result is not unlike the result seen in the condition X coaster appeal interaction, which also utilized a more personal, less cognitive measure of involvement. The other effect seen in the two tables is that the exemplification condition is significantly lower than the other two conditions under high empathy. No difference between conditions is evident within the low empathy group.

Table 6

Mean Risk Perception Scores for Condition x Empathy Interaction of Health Importance

Condition	Low Empathy	High Empathy	Sig. by Condition
Base Rate Only	-0.175	0.334^{A}	not sig.
Exemplification Only	0.364	-0.760^{B}	$p < .01$
Base Rate and Exemplification	0.178	0.121^{A}	not sig.
Sig. per Level of Empathy	not sig.	$p < .05$	

Note. Means with different superscripts within a shared column significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

Table 7

Mean Risk Perception Scores for Condition x Empathy Interaction of Looks

Condition	Low Empathy	High Empathy	Sig. by Condition
Base Rate Only	-0.015	0.223^{A}	not sig.
Exemplification Only	0.302	-0.782^{B}	$p < .01$
Base Rate and Exemplification	0.301	0.146^{A}	not sig.
Sig. per Level of Empathy	not sig.	$p < .05$	

Note. Means with different superscripts within a shared column significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

Roller Coaster Recall Analysis. Analyses for recall of the roller coaster information was three-fold. First, the total percentage of correct answers was compared using a univariate ANOVA crossing condition with involvement and using empathy as a covariate. Involving the appeal measure, the ANOVA yielded a significant main effect for appeal ($F = 4.136$, $p < .05$), in which respondents in the high appeal group (65.7%) remembered over twelve percent more items than those in the low appeal group (53.6%). In addition, a significant interaction between condition and appeal ($F = 3.470$, $p < .05$) showed that high appeal respondents in the exemplification condition remembered far more than low appeal respondents in the same condition (see Table 8).

Results were contrastive for the safety involvement measure. This ANOVA, which crossed condition with perceived roller coaster safety, also yielded a near significant main effect for safety ($F = 3.595$, $p < .10$), in which lower faith in safety (61.9%) coincided with higher percentage of recall than high faith in safety (50.9%). However, the significant condition X safety interaction ($F = 3.230$, $p < .05$) showed that recall in the base rate condition was the most affected by involvement (in Table 9 below).

Table 8

Percentage of Information Recalled for Condition x Appeal Interaction

Condition	Low Appeal	High Appeal	Sig. for Condition
Base Rate Only	61.1%	64.4%	not sig.
Exemplification Only	41.3%	75.2%	$p < .01$
Base Rate and Exemplification	58.4%	57.5%	not sig.
Sig. per Level of Appeal	not sig.	not sig.	

Note. Means significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

Table 9

Percentage of Information Recalled for Condition x Safety Interaction

Condition	Low Safety	High Safety	Sig. for Condition
Base Rate Only	72.9%	41.4%	$p < .01$
Exemplification Only	53.5%	54.5%	not sig.
Base Rate and Exemplification	59.2%	56.9%	not sig.
Sig. per Level of Safety	not sig.	not sig.	

Note. Means significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

The second prong to the recall analysis was the comparison of base rate recall between the base rate-only condition and the combined condition. In this case, the condition X appeal ANOVA yielded no significant differences in recall. In likely contrast, the condition X safety ANOVA illuminated both a significant main effect for safety ($F = 6.835$, $p < .05$) and a significant interaction between condition and safety ($F = 4.724$, $p < .05$). The main effect (Low Safety = 65.3%, High Safety = 47.7%) and

interaction results (in Table 10) mirror those of the previous ANOVA, in that lower scores for safety yielded better recall overall, and especially in the base rate condition.

Table 10

Percentage of Base Rate Information Recalled for Condition x Safety Interaction

Condition	Low Safety	High Safety	Sig. for Condition
Base Rate Only	73.0%	41.0%	$p < .01$
Base Rate and Exemplification	57.5%	54.4%	not sig.
Sig. per Level of Safety	not sig.	not sig.	

Note. Means significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

The final portion of the recall test was the comparison of exemplar information recall between the exemplification-only and combined conditions. Here, the condition X safety ANOVA yielded no significant results. The condition X appeal ANOVA, however, did uncover both a significant main effect for appeal ($F = 4.483$, $p < .05$) and a significant condition X appeal interaction ($F = 6.243$, $p < .05$). Similar to the relationship seen with the above condition X safety results in Tables 9 and 10, the main effect (Low Appeal = 51.3%, High Appeal = 66.6%) and interaction results from the present condition X appeal test for exemplification recall parallel those of the previous condition X appeal overall recall result (in Table 8 above). Table 11 below displays the percentages for the exemplified information recall test. Note that, in addition to the effect within the exemplar-only condition, respondents under low coaster appeal learned more exemplified information from the two-sided story than from the one-sided, exemplification-only story.

Table 11

Percentage of Exemplified Information Recalled for Condition X Appeal Interaction

Condition	Low Appeal	High Appeal	Sig. for Condition
Exemplification Only	41.5%	74.4%	$p < .01$
Base Rate and Exemplification	61.1%	58.7%	not sig.
Sig. per Level of Appeal	$p < .05$	not sig.	

Note. Means significantly differ by the Tukey/Kramer (TK) method (Hinkle, Wiersma, & Jurs, 1998, p. 394).

Diet Pill Recall Analysis. Contrary to the findings of the roller coaster data, all recall tests for the diet pill story yielded either no significance or a main effect for condition, deciphered by least significant difference pairwise comparison tests. For example, the condition X health ANOVA testing overall percentages of recollection yielded a main effect for condition ($F = 10.922$, $p < .01$), in which the base rate condition (30.7%) recalled significantly less information than either the exemplification-only (63.8%) or the combined (52.4%) conditions. Likewise, the main effect from the condition X looks ANOVA ($F = 10.537$, $p < .01$) provided almost identical findings, with the base rate group (30.9%) recalling significantly less information than either the exemplified (64.2%) or the base rate and exemplification (51.2%) conditions.

The breakdown between base rate versus exemplified information recollection told a similar story. The condition X health ANOVA offered a significant main effect for condition ($F = 5.079$, $p < .05$), showing that respondents in the combined condition (46.6%) learned more base rate data than those in the base rate-only condition (30.8%). Conversely, no significant effect was found for exemplification recollection between the exemplar-only and combined conditions using a condition X health ANOVA.

This was also true in the recall tests using personal looks as the measure of involvement. Here, the main effect for condition ($F = 4.485$, $p < .05$) indicated that base rate information was remembered more by those in the two-sided condition (46.2%) versus those in the base rate-only condition (31.3%). In addition, no effect was found for exemplification information recollection between the exemplar-only and the base rate and exemplification conditions.

DISCUSSION

Three basic effects were witnessed in the present study. The first effect can be said to involve high levels of supportive, affective involvement in a message. Take, for example, the results from the roller coaster story, in which the base rate data supported and the exemplars refuted coaster safety. Respondents with high appeal for coaster riding estimated a significantly higher risk involved in coaster riding than their low appeal counterparts in both the exemplification-only and base rate plus exemplification conditions. In this measure of appeal, a personal, affective evaluation, exemplars were more persuasive under high involvement than under low involvement.

The same effect can be seen for the diet pill story, whose base rate information, in contrast with that of the roller coaster story, refuted diet supplement use, and whose exemplars supported use. In the exemplification condition, respondents measuring high in empathy rated risk significantly lower than low empathizers in the same condition. In addition, high empathizers in the exemplification-only condition estimated a significantly lower risk than high empathizers in either of the other two conditions. This is further evidence that high affective involvement, such as high empathy, coincides with a greater persuasive strength of exemplars, provided that the involvement is supportive in nature.

This effect is in agreement with the findings of Gibson and Zillmann (1994), Jepson and Chaiken (in Eagly & Chaiken, 1993), and the thirteen studies identified by Baesler and Burgoon (1994). The effect also agrees with the finding of Kopfman et al. (1998), that narratives, a form of exemplification, yield stronger affective reactions. It follows, then, that a heightened measure of an affective form of salience would intensify this reaction, resulting in an increased persuasive impact for exemplars. Indeed, research in vividness predicts this.

Fiske and Taylor (1991) said of vivid information that it is more emotional, and because it has a strong affective component, it can impact judgment in an affective manner. Likewise, vividness was also predicted to have more retentive power because it is more prone to mental visualization, a task associated with heightened encoding. Again, this supports the findings of this study, in which the recall results for both the roller coaster and diet pill stories indicate that exemplars are remembered significantly more under high, supportive, affective involvement.

The second effect resulting from this study is that of high levels of supportive, cognitive involvement. In the diet pill story, in which base rate refuted use, respondents in the base rate condition reported significantly higher risks of supplement use if they felt that dieting was of high importance to overall health as opposed to if they did not believe that dieting was important to health. In addition, among respondents giving dieting a high health importance level, those in the base rate-only condition estimated a significantly higher risk than those in the exemplification-only condition. This indicates that base rate data is more persuasive under high, supportive involvement, in which a general, more cognitive evaluation is accessed. However, respondents in the base rate

condition recalled significantly less information than respondents in the other two conditions.

Evidence is similar for the roller coaster story, which offered supportive base rate information. Here, respondents in the base rate-only and combined conditions rated risk significantly lower if they had high faith in overall coaster safety versus if they had little faith in safety. This also implies that the base rate data are more persuasive under this high level of supportive, cognitive involvement. However, like the diet pill results, respondents, especially those with high faith, remembered less base rate information.

The above-mentioned base rate persuasion effect, the result of high, supportive, cognitive involvement, is the sister to the second Kopfman et al. (1998) finding that base rate data influence cognitive reactions. This effect coincides with the effect found by Krupat et al. (1997), whose automobile study showed that statistical information can be more persuasive than anecdotal text when the information is highly, cognitively salient. A likely explanation for this phenomenon is derived from the proposition by Petty and Cacioppo (1986), which states that an increased motivation to process leads to objective message processing, which in turn, can enhance the recognition of the strengths of cogent arguments. Because base rate information can be philosophized as being inherently more cogent due to its appearance as being based in scientific fact, the base rate data should be more persuasive under high, supportive, cognitive involvement.

This does not, however, explain why the base rate information under high supportive involvement was not as memorable in this study. Perhaps there is an underlying issue regarding the motivation to recall. The third effect found in this study study implies such a motivation. This effect is that of high refutative involvement.

The other extremes of the involvement measures for both the roller coaster and diet pill stories can be said to be strong evaluations of a counterattitudinal nature in relation with the supportive arguments of the stories. In the case of the roller coaster story, respondents with extreme low faith in roller coaster safety rated risk significantly higher than their high faith counterparts within both the base rate and combined conditions, even though the base rate information supported coaster safety. Similarly, skeptical respondents in the base rate-only condition had significantly higher measures of recall than did the high-faith respondents in the same condition. This is a reasonable finding when one considers the argument from the Elaboration Likelihood Model that prior beliefs will bias the processing of counterattitudinal messages in a negative manner, rendering the messages less persuasive (Eagly & Chaiken, 1993). In addition, as argument scrutiny increases, as in the case of counterarguing, the central processing route is employed, making the cogent arguments more memorable (Petty & Cacioppo, 1986).

Essentially, this third effect is that of counterargument. As McGuire explained it, "attitudes and beliefs are vulnerable to persuasive attack by opposing arguments," (in Eagly & Chaiken, 1993, p. 561) and without an inoculation of the attacking message, receivers of the counterattitudinal message will be more motivated to counterargue. Therefore, respondents under high refutative involvement will give a heightened amount of attention to a conflictive message, and they will be more motivated to recall it. This is what occurred in the present study.

The opposite side of the coin is seen for respondents with little appeal for roller coasters. Under low appeal, respondents in the base rate condition perceived a significantly higher amount of risk than did low-appeal respondents in the two-sided,

base rate plus exemplification condition. More accurately, low-appeal respondents who read the two-sided story were more persuaded by the base rate information than the low-appealers who read the one-sided story. This is the very effect predicted by McGuire, who proposed that receivers of a two-sided message would be more persuaded by the positive arguments (in Eagly & Chaiken, 1993). In addition, under high refutative involvement, respondents in the two-sided condition remembered more information from both the roller coaster and diet pill stories than did respondents in either of the other two conditions. Thus, the results indicate that a two-sided story is more persuasive, more scrutinized, and thus more memorable due to a heightened motivation to recall.

This study lends support to Anderson's idea that salience is "a determinant of information acceptance" (in Eagly & Chaiken, 1993, p. 263). However, it is clear that salience does not simply emulate the "tendency in impression formation research for negative information to be weighted more heavily than positive information," as Anderson also said (in Eagly & Chaiken, 1993, p. 250-251). If this were the case, the results of this study would have shown contrasting effects when comparing the base rate conditions of the two stories, for example. Instead, it appears that receivers of a given message will be more accepting of either the more vivid exemplars or the more cogent base rate information depending upon whether the associated salience is supportive or refutative, cognitive or affective. Herein lie the divergent effects of salience on the persuasive and retentive powers of a message. It is not simply that a high measure of involvement will determine which side or valence is the more influential part of a message. Rather, it is as Ben Kingsley (1992) told Robert Redford in *Sneakers*: "It's all about the information."

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"Negative implications of the third-person effect on program assessment validity: An experiment with the Drug Abuse Resistance Education program"

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"Negative implications of the third-person effect on program assessment validity: An experiment with the Drug Abuse Resistance Education program."

Abstract

While the third-person effect hypothesis has undergone considerable testing since it's inception nearly three decades ago, this research is the first project to investigate an applied use for the concept. This study introduces a formula for calculating a differential impact index and demonstrates with an experiment using middle-school age students in a Drug Abuse Resistance Education (DARE) program that a first-person or third-person effect can produce a confounding variable into traditional program evaluations. This study suggests assessment evaluations include a differential impact index to alert evaluators of the presence of a first-person or third-person effect that may result in major miscalculations.

"Negative implications of the third-person effect on program assessment validity: An experiment with the Drug Abuse Resistance Education program."

Introduction

The DARE (Drug Abuse Resistance Education) program is a widely implemented program in the United States for fifth grade students, receiving funds of $750 million dollars annually. However, critics say DARE has not been proven to be effective (Brown & Caston, 1995; Dukes, Ullman, & Stein, 1996; Dukes, Ullman, & Stein, 1995; Palumbo & Ferguson, 1995; Pellow & Jengeleski, 1991; Wysong & Wright, 1995).

The most recent basis for the criticism is a study conducted by the Research Triangle Institute. R.T.I. findings indicate that the DARE program has no effect in preventing drug use, although R.T.I. evaluation methods have been called into question (Monroe, 1994).

At the same time that the research into the DARE program is being challenged, research suggesting an improved method of program evaluation has emerged. This new method of program evaluation would attempt to eliminate some threats to internal validity with the use of a self-assessment data.

The index described above was suggested in earlier research into the third-person effect (Banning, 1997). The third-person effect occurs when a person believes others are more influenced by a message than they themselves are influenced (Davison, 1983). Studies indicate this denial of influence increases when the person believes it is socially undesirable to be influenced.

This phenomenon is problematic for evaluations of programs such as the DARE program, because the young people in the DARE program may be likely to see the act of

being influenced by a drug awareness program as socially undesirable. Therefore, by the very nature of the influence, young people in a DARE program are more likely to deny that the program had influenced them (and actually believe that the program had not influenced them), regardless of whether or not it *had* influenced them.

Literature Review

The concept of the third-person effect first emerged in a 1983 study by Davison, in which he stated that the third-person effect occurs when people tend to believe others are more affected by media messages than they themselves are, and that this assessment is an overestimation. Subsequent research into the third-person effect has found that, contrary to the traditional belief that communication has a direct persuasive impact on the audience (Becker, McCombs, & McLeod, 1975), the audience's perception of the form of the communication is vitally important. Mutz (1989) noted: "[In regard to the third-person effect] the effect that the communication achieves is not due to any direct persuasive influence of the message itself, but rather to the behavior of those persons who anticipate, or think they perceive, some reaction on the part of others, and behave differently as a result." According to Perloff (1989), and Cohen and Davis (1991), people react to communication depending on how they think other people understand the communication. In other words, peer pressure can be a powerful determinant in whether a person is likely to deny that a communication has had a persuasive impact on them. Thus, traditional self-assessment program evaluations may be less accurate in situations in which peer pressure is high.

Further studies have indicated that the level of third-person effect (level of the likelihood that a person will deny that a communication has had a persuasive impact on

them) increases when a person believes it is socially undesirable to be affected by the communication (Banning, 1997; Eveland & McLeod, 1999; Gunther & Mundy, 1993; Innes & Zeitz, 1988; Ognianova, Meeds, Thorson, & Coyle, 1995; Rojas, Shah, & Fabar, 1995). One study (Banning, 1997) notes:

> Students involved in such a [DARE] program would probably not report that the program had affected them. This is because, among young people, there may be a negative stigma attached to persuasion by a police officer. Thus, if a greater third-person effect was created by the negative stigma of the message . . . the young people in a DARE program would be unlikely to report the program had affected them, regardless of whether or not it had affected them. Program evaluators should adjust their scores for the third-person effect. For example, DARE participants could be asked to rate how the program affected themselves and how it affected others. If a t-test indicated a significant difference between the two groups, evidence of a third-person effect, it could be concluded that the responses were not an accurate assessment of the DARE program's effectiveness. Thus, checking for a third-person effect is a way of checking the validity of the evaluation. The presence of a third-person effect in evaluations indicates a lack of validity. Constructing a formula to adjust for the third-person could result in more valid program evaluations and a way of circumventing some of the traditional problems that self-reporting measures incur. (p. 86)

Actually, a third-person effect is not the only evidence of an internal validity problem. Significant evidence of a differential impact, either a first-person effect or a third-person effect indicates an internal validity problem (A first-person effect occurs

when a person believes a message has more of an effect on others than it has on himself or herself.).

For example, if a subject were asked whether the media has strong effects, the reply might be in reference to whether the subject was thinking in terms of others or themselves and whether the question elicited a differential impact. The traditional way of asking about the impact of messages (be they media or in regard to an intervention such as the DARE program) does not eliminate the possibility of confounding by the differential impact variable. Thus, instead of asking whether the media has strong effects, a researcher could ask a subject how much the subject believes the media has strong effects in relation to themselves and how much they believe the media has strong effects in relation to others. This use of specific questions would help identify the presence of a differential impact.

Research Questions

The purpose of this research is to demonstrate that adjusting for differential impacts may result in more reliable measurement instruments and more accurate measurements of a program's effectiveness, in this experiment, for the DARE program. Accountability is becoming a common theme among federal and state governmental agencies as administrators attempt to maximize scarce resources. This accountability often takes the form of assessment of a program's effectiveness. Where the product is an intangible, the assessment often depends upon self-assessment instruments. Thus, the funding of an effective program may rest on whether or not the instrument has accurately reflected the success of the program.

Use of assessment instruments that are not sensitive enough to measure a program's success may result in the elimination of federal or state funding for a successful program. Accuracy, a high level of validity, is crucial. Use of assessment instruments with a high level of sensitivity allow administrators to make better decisions, and can give taxpayers and funding agencies more confidence that resources are being allocated properly.

Research indicates the third-person effect may result in a lack of accuracy in assessment instruments. With the use of self-assessment tests that have questions built in and allow for researchers to measure and adjust for the level of the third-person effect, however, the accuracy of the tests could be greatly improved. This is especially likely in situations involving young people, where the third-person effect is likely to be high and self-assessments tests are likely to underestimate the influence of a program intervention. In brief, this research has the potential to raise the sensitivity of current program evaluation instruments.

The breadth of applications to which this research applies is expansive. There are immediate potential benefits to DARE programs and similar drug abuse prevention programs that use self-assessment evaluations to gauge success or failure of the intervention.

Specifically, determining whether DARE is effective is key in regard to decisions to keep DARE in place, or to retool and implement a new program. However, this application is just one of the many potential uses of this research. Other potential benefits include the possible improvement of the gamut of University Extension, state and federal program evaluation instruments that involve self-assessment instruments.

The primary goal of this research was not to evaluate the DARE program per se. More specifically, the goal of the test was to develop and implement an instrument that can be used to evaluate whether the third-person effect influences traditional program evaluations. This, in turn, may allow for specific adjustments to be made.

This leads to the formation of the study hypotheses:

H1: The respondents will show a statistically significant differential impact between the set of questions which asks how much the students listen when police officers warn about drugs and the set of questions which asks how much they believe others in their class listen when police officers warn about drugs.

This first set of questions pertains to how students perceive the DARE message's effect on themselves and is referred to hereafter as the questions pertaining to "self." The second set of questions pertains to how students perceive the DARE message's effect on others and is referred to hereafter as the questions pertaining to "others."

H2: The respondents will show a third-person effect toward DARE officers.

The finding of a third-person effect has become the norm in studies measuring for the third-person effect. One researcher found that the third-person effect was evident in 13 out of 14 studies reviewed (Perloff, 1993). A more recent study of third-person effect research found that the third-person effect was present in 15 out of 16 studies reviewed (Perloff, 1996). Furthermore, a 1995 study (Duck & Mullin) with adolescents found evidence of a third-person effect regarding drunk driving public service announcements because the subjects considered the subject "nerdy." Therefore, it is consistent with previous research to predict that the differential impact predicted in H1 will be a third-person effect and not a first-person effect.

Method

As discussed earlier, the basic definition for the "third-person effect" is the phenomenon created by a person believing messages have a greater effect on others than on him or herself. Therefore, the operational method of defining the third-person effect in this study will be the same method used in many other third-person effect studies and is not unique to this research. In this study, a measure of the third-person effect is created by a number of "couplets," paired questions in the questionnaire (although, to avoid hypothesis guessing, the questions were embedded and not placed within proximity to each other).

The concept of using pairs of questions to come up with a third-person effect score seems to have originated with Davison (1983) and refined in a study by Cohen, Mutz, Price, and Gunther (1988). Two other studies which used paired questions to come up with a third-person effect score specifically cite Cohen et al. as their source for this system (Gunther, 1991; Gunther & Mundy, 1993). Other third-person effect studies that have used paired questions to come up with a third-person effect score include Mutz (1989), Perloff (1989), and Rojas et al. (1995). Two other methods for calculating the third-person effect have also been used. Tiedge, Silverblatt, Havice, and Rosenfeld (1991) used a system of three questions instead of two questions, and Lasorsa (1989) and Lometti, Ashby, and Welch (1994) coded open ended questions to arrive at third-person effect scores.

The example given below illustrates the procedure that was used in this research.

First Question: How much do you listen when police officers warn about drugs?

1 A LOT
2 SOME
3 NOT MUCH

4 NOT AT ALL

Second Question: How much do you think others in your class listen when police officers warn about drugs?

1 A LOT
2 SOME
3 NOT MUCH
4 NOT AT ALL

This is a format based on two published third-person effect studies (Cohen & Davis, 1991; Gunther & Thorson, 1992). The respondent who checked a lower interval on the scale provided on the second question than on the first question of the couplet, has indicated a third-person effect, because he or she has indicated a belief that the program has had a greater effect on others than on him or herself. In the above example the responses would first be reverse coded. This study used Likert-like scales, as these have been used in many third-person effect studies including Cohen et al. (1988), Mutz (1989), Perloff (1989), Cohen and Davis (1991), Gunther, (1991), Tiedge et al. (1991), Gunther and Thorson (1992), and White (1995).

As applied to this experiment, the presence of a third-person effect will be interpreted as problematic for the traditional interpretation of the data because of the danger that the resulting variance is being suppressed by the third-person effect. This is a threat to internal validity. In other words, the presence of the third-person effect is a red-flag that the data may not reflect, and may underestimate, the full effect of a program. In summary, the finding of a high level of the third-person effect score for the DARE evaluations would indicate the possibility that the third-person effect may be a suppresser variable, resulting in an underestimation of the actual effect of the program. Understanding the presence of the third-person effect as a suppresser variable in an evaluation allows the program administrators to better understand the results of their

measuring instruments, and can allow them to better explain the results of the data and evaluate a program's level of success.

While demonstrating that a differential impact can call into question the validity of a program evaluation might help illuminate the problem, the solution requires additional conceptualization. The solution proposed in this research is: 1) the use of a standardized system to operationally define a differential impact for comparison purposes, and 2) the reduction of differential impact levels to an index that can be used for cross study comparisons. The use of an index has not been used in previous third-person effect research and is presented here for the first time.

The first step in the process is to run a t-test to determine if there is a significant difference between the two groups of scores. The proposed formula for determining whether the effect is a third-person effect or a first-person effect is as follows: $\Sigma a - \Sigma b = e$; where a is the set of scores for the questions pertaining to "others," b is the set of scores for the questions pertaining to "self," and e is the differential impact level. This formula is based on the mathematical principle known as the additive property (Hinckle, Wiersma, & Jurs, 1994). The differential impact level may be interpreted as follows: if e is a positive integer, the differential impact is a third-person effect; if e is a negative integer, the differential impact is a first-person effect.

How this would work with raw scores can be seen in the following: if the sum of the scores of the questions pertaining to "self" is 75, and the sum of the scores of the questions pertaining to "others" is 50, the differential impact level would be –25. The integer 25 gives some understanding of the magnitude of the difference, while the negative sign reveals that the differential impact is a first-person effect.

Describing this example illustrates a minor problem with the use of this formula. While use of the formula reveals information about the score sets, the information is not easily compared to other findings. However, this can be accomplished with the use of the differential impact level index.

The proposed differential impact index is as follows: $(100 * |e|)/\Sigma b = i$, where a is the set of scores for the questions pertaining to "others," b is the set of scores for the questions pertaining to "self," e is the differential impact level, and i is the differential impact index. It may be noted that the absolute value of e is used in this equation. This was done to remove any negative sign from the equation as the direction of the differential impact effect is presumably already known at this point, and a negative sign would complicate interpretation of the index.

The manner in which this would work with raw scores can be seen in the following: if the sum of the scores of the questions pertaining to "self" is 75, the sum of the scores of the questions pertaining to "others" is 50, and the differential impact level is –25, the index would be .20. Because the sign on the differential impact level was negative, we would have already determined that the differential impact is a first-person effect.

In context with a differential impact index score of .20, we can say that the scores on the questions pertaining to "self" were 20% higher than the scores on the questions pertaining to "others." If the sign on the differential impact level had been positive, we could say that there was a third-person effect in operation and that the scores on the questions pertaining to "others" were 20% higher than the scores on the questions pertaining to "self." In summary, the differential impact index is the difference between

the scores from the questions in the "self" and "others" groups. This is valuable tool for researchers in that it creates a shorthand method for explaining the magnitude of the differential impact findings in a study. A researcher could express the above index by saying a 20% first-person effect index had been revealed.

Results

The instrument was administered to 119 fifth grade students at a medium sized Midwestern grade school. The group consisted of five classes who had recently completed a DARE program. The gender of the 119 subjects was about evenly divided, with 59 males, 59 females, and one respondent not reporting. Approximately 79% were white, 11% African-American and the remaining ten percent a mixture of Mexican-American, Asian, Native-American, Puerto-Rican and others. Eighty-two percent of the respondents were eleven-years-old, 12% were ten-years-old and the remaining six percent were twelve-years-old.

A t-test was run on the two groups of questions described previously. A significant difference was found at the .0001 alpha level, supporting H1, which stated: "The respondents will show a statistically significant differential impact between the set of questions which asks how much the students listen when police officers warn about drugs and the set of questions which asks how much they believe others in their class listen when police officers warn about drugs." (See Tables 1 and 2.)

In order to determine the direction of the differential impact (whether the effect was a first-person or third-person) the formula $\Sigma a - \Sigma b = e$ was used as described earlier. Thus, the scores from each group were added, respectively. The summation of the scores of the first group (397) was subtracted from the summation of the scores of the second

group (448) and a negative number resulted (-51), revealing the presence of a first-person effect (See Table 3 and Appendix A). This, in turn, did not support H2, which stated that the differential impact would be a third-person effect.

The differential impact index formula described earlier $(100 * |e|)/\Sigma b = i$, was used to assess the differential impact index. This resulted in a differential impact index of .11 (See Appendix B). Given that we have already determined that the differential impact is a first-person effect, we can express the differential impact index in words by saying that the scores on the questions pertaining to "self" were 11% higher than the scores on the questions pertaining to "others." Alternately, we can say that an 11% first-person effect index level was achieved.

Discussion

The fact that H1 was confirmed has implications for program evaluations in that it reveals how question wording can over or under inflate the apparent effect of an intervention in relation to the third-person effect. It also demonstrates the differential impact index introduced herein in that the level of differential impact on respondents can be measured. This could be used as a tool to understand the psychology behind the statistics in program evaluations and interventions and in assessing whether the responses have internal validity.

The fact that H2 was not confirmed is interesting in that third-person effects are common in research to the point that the third-person effect hypothesis is commonly called robust (Perloff, 1993). Only one other third-person effect study (Chapin, 1999) has included middle-school age subjects as part of the sample pool. Thus, the lack of research into differential impacts on subjects of middle-school age makes evaluation

somewhat speculative, but reasons for the first-person effect finding could be a believe by middle-school age subjects that they are not impervious to the effects of law enforcement authority figures. This could be a variable that would not be present in schools and areas of the country more cynical of law enforcement. The subjects might also have seen the DARE program as a socially positive program which might have eliminated an ego defense mechanism which, in turn, might trigger the third-person effect response.

Conclusion

The third-person and first-person effects do seem to have an effect on how people assess a program, and this effect could skew results in an evaluation. Had this experiment not used the differential impact index our understanding of the numbers would have been much different. We might have concluded that the DARE program is very strong if we only looked at responses to the question which asked respondents how the DARE program affected others. We might have concluded that the DARE program is not as effective if we only looked at responses to the questions which asked respondents how the DARE program affected themselves.

The problem is determining what a high level of differential impact means. On the one hand, it shows the presence of a confounding or suppressing variable that means a reduced level of internal validity for either set of responses mentioned the preceding paragraph. In the case of a real world program evaluation, such a high level of differential impact would necessitate either further testing to increase internal validity or very cautious treatment of the program evaluation results.

On the other hand, if the differential impact level were found to be low, one could assume confounding variables pertaining to the third-person effect were not likely to be

at work, internal validity could be assumed to be higher, and the program evaluation results taken more seriously. For example, a differential impact index of 0 would indicate high internal validity.

Program evaluators should seriously consider using the third-person effect index as a way of gaining additional information about program evaluations and their internal validity. Calculation of the differential impact index requires only the sums of the scores from individual groups and not the use of the complete database. Thus, in cases where the sums of the scores from individual groups are available, it would be possible to compute the differential impact index on past studies without access to their databases.

On the other end of the spectrum, a minimalist approach requires little effort on the part of the program evaluator. A questionnaire with a set of two questions as described earlier and a repeated measures t-test will indicate if there is a significant differential impact between the two groups of questions. A significant difference would be a warning sign of the presence of internal validity problems related to a differential impact.

Future research into what causes the third-person and first-person effects could also benefit program and intervention evaluators. When more is known about what variables cause the third-person effect and how those variables interact, the specific confounding and suppressing variables may be able to be identified, further increasing the internal validity of program evaluation instruments.

In the past, researchers have looked at macro applications of the third-person effect. This research presents a very applied micro level application of the third-person effect and answers the question of why researchers should research the third-person

effect. The answer is that the third-person effect research has real world applications and consequences in regard to program evaluations that society should harness.

Appendix A

Calculation for Differential Impact

Σa (The sum of the set of scores for "self") = 397

Σb (The sum of the set of scores for "others") = 488

$\Sigma a - \Sigma b = e$

$397-488 = e$

$-51 = e$

Appendix B

Calculation of the Differential Impact Index

i = Differential Impact Index

e = -51

|e| = 51

$\Sigma b = 488$

$(100 * |e|)/\Sigma b = i$

$(100 * 51)/ 488 = i$

$5100/488 = i$

$.11 = i$

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Table 1

Paired Samples Statistics

	Mean	N	Standard Deviation	Standard Error of the Mean
Pair 1 "Self" Set	3.76	118	.55	5.06E-02
Pair 1 "Others" Set	3.36	118	.62	5.73E-02

Table 2

Paired Samples Test

	Paired Differences Mean	Standard Deviation	Standard Error of the Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Significance (2 tailed)
Pair 1 "Self" Set/"Others" Set	.40	.63	5.79E-02	.28	.51	6.879	117	.000

The Effects of Increased Awareness on College Students' Interpretations Of Magazine Advertisements for Alcohol

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Message Interpretation Effects

The effects of increased awareness on college students' interpretations of magazine advertisements for alcohol

Abstract

An experiment with 520 college students tested whether heightened awareness during media exposure would affect the message interpretation process by enhancing skepticism, with the enhanced skepticism influencing both affective and cognitive aspects of decision making. The results suggest that skepticism has affective and logical components, which can be represented by trust (more affective) and perceived realism (more logical), and that skepticism's effects on affective and logical decision making are revealed somewhat differently.

The effects of increased awareness on college students' interpretations of magazine advertisements for alcohol

Scholars and practitioners continue to struggle with the issue of alcohol on college campuses and the role media messages may play in exacerbating or combating alcohol-related problems on campus. Between 70% and 95% of students attending large U.S. universities drink alcohol, with alcohol use among college students rising (Harford, Wechsler & Rohman, 1983; Johnston, O'Malley & Bachman, 1996; Kaplan, 1979; Wechsler, Austin & DeJong, 1996; Wechsler & Rohman, 1981). It appears that the ages 18 through 21 comprise the period of heaviest alcohol consumption for most drinkers in the United States (Chen & Kandel, 1995), and many of these young drinkers experience a wide range of adverse effects (Maney, 1990). Although it is widely believed that media messages contribute to drinking decisions, how they do so remains poorly understood.

Why concern exists about an advertising/drinking link

Media messages do appear to encourage high levels of alcohol use. Alcohol is the most common beverage portrayed on television (Madden & Grube, 1994), usually portrayed in positive or neutral contexts (Grube & Wallack, 1994; Atkin, Hocking & Block, 1984; Madden & Grube, 1994; 12. Atkin, DeJong, & Wallack, 1992; Grube, 1993; Wallack, Cassady, & Grube, 1990), in appealing portrayals (Atkin & Block, 1981) associating individuals drinking alcohol in the media with glamor, popularity and success, with drinking associated with sexual behavior,

sports and vehicle use (Grube, 1993; Wallack, et al., 1990; Postman, Nystrom, Strate, & Weingartner, 1987). Negative consequences of heavy drinking are rarely portrayed, and very little mention is made of the long-term health consequences of heavy drinking (Heilbronn, 1988).

The need to look beyond TV advertising to effects of magazine ads

Most studies of alcohol advertising effects focus on television ads, but magazine ads may be another important source of persuasive information for adolescents and young adults. In a study by to the Magazine Publishers of America (Weisman, 1999) television alone accounted for 36% of brand awareness, magazines accounted for 29% of brand awareness, and a combination of television and magazines accounted for 35%. A recent national study of adolescents showed that a substantial proportion identify themselves as readers, with 79% reading books, magazines or newspapers the previous day (Roberts, Foehr, Rideout & Brodie, 1999). Among these, a third read books, just over half read a newspaper, and 60% read magazines. Boys tended to choose content focused on sports, with girls choosing such topics as romance, fashion and women's issues, youth/teen issues, and horoscopes and advice columns. Under the assumption that these trends continue into the college years, it seems important, therefore, to examine the role of magazine advertising in young adults' decision making for alcohol.

The practice of targeting and segmentation to affect behavior

Advertising appeals generally have fallen into two basic presentation strategies: intellectual and emotional. The intellectual presentation depends on logic and rational argumentation to promote the product, while the emotional method of presentation depends more on appeal or desire. Alcohol advertisements exemplify the emotional appeal approach,

discouraging cerebral responses, avoiding complexity, sensitivity, thoughtfulness, or political awareness (Hall, 1994). Sex, sex appeal and desirability have proven to be successful appeals in advertising to men, the more frequent target of alcohol advertising, using images of beautiful and available women and power (Barthel, 1994), with an emphasis on gender stereotypes that subordinate women and portray men as confident, cool and detached (Hall, 1994). These attempts to portray alcohol use as desirable tend to be well received by their target publics (Parker, 1998).

Because consumers' decision-making processes are complex, the practice of segmentation among marketers and advertisers is growing into a more sophisticated representation of consumer markets. The model has evolved from looking at demographics to more psychographic values, attitudes, and lifestyles, in the hope of targeting each individual's desired self-image (Burrell, 2000; Merrick, 1999). It has been suggested that health communicators have lagged behind in sophistication, failing to segment audiences as effectively as commercial marketers ("The Women's Audience," 1998). Meanwhile, marketers have stepped up their attempts to reach children and young adults more successfully, with some public relations and advertising firms developing departments devoted to market research on children and adolescents (Bauder, 1999; Feen, 2000).

Evidence that effects depend on a variety of factors

These efforts to target young consumers appear to pay off and have implications for young people's receptivity to alcohol advertising. Teenagers in one large-scale survey illustrated the power of the emotional appeal of alcohol advertising by overwhelmingly responding that ads

make drinking look better than it really is (low in perceived realism) but nevertheless influence young people to drink more, presumably because of the desirable portrayals (Billings et al., 1993). Indeed, experiments have shown that sexual imagery and celebrity endorsers increase the appeal of alcohol advertising among young people (Atkin, 1994; Kilbourne, Painton & Ridley, 1985; Atkin & Block, 1983; Friedman, Termini & Washington, 1977; Kotch, Coulter & Lipsitz, 1986). This suggests that individuals' logical, realism-based decision-making processes can be overwhelmed by a more affective, wishful-based process.

Interventions aimed at increasing logic

According to Fischhoff and Quadrel (1991) interpretations of messages are important variables in the decision process, which decision theory conceptualizes as the process of making choices among action alternatives. Making choices requires the consideration of options, possible consequences and obstacles. Unfortunately, adolescents often appear to make decisions about drinking independent of their knowledge of alcohol's effects (e.g., Botvin, 1986). This could suggest that information does not matter to them, but some have suggested that it more likely suggests that scholars need to better examine adolescents' understanding of information (Fischhoff & Quadrel, 1991). For example, adolescents who connect getting drunk with driving accidents may define "drunk" in unrealistic ways such as after 10 glasses of beer, or after a blackout (Fischhoff, 1996; Beyth-Marom & Fischhoff, 1997).

One strategy addressing young drinkers' misperceptions targets college students' perceptions of social norms regarding drinking, such as how often and how much their student colleagues drink (Barnett, Far, Mauss & Miller, 1996; Haines & Spear, 1996; Perkins &

Wechsler, 1996). Research indicates that students commonly over-estimate the extent to which their peers use alcohol (Perkins & Berkowitz, 1986). Campaign evaluations have found that correcting these misperceptions can contribute to measurable decreases in drinking behaviors (Barnett et al., 1996; Far, 1998).

The norms correction approach, however, seems to operate on an assumption that drinking behaviors result from a logical decision-making process such that changing perceptions of social reality should result in changed behaviors as people strive to act similar to those around them. The persuasion and media effects literatures, however, suggest that information-based campaigns often fail to change behavior (McGuire, 1989) and that norms develop to some extent in response to wishful thinking rather than perceptions of reality or similarity and are in development as early as third grade (Austin & Johnson, 1997a; Austin & Meili, 1994). In addition, research has suggested that drinking behaviors are predicted more strongly by expectancies than by social norms, with expectancies shaped to some extent by perceptions of media portrayals of drinking (Austin & Meili, 1994; Austin, Pinkleton & Fujioka, 1999, 2000). Austin and Johnson (1997a), for example, found that norms predicted predrinking behavior among third graders only by way of their effects on perceptions of how similar media portrayals were to their own personal experience (explaining 48% of the variance), which in turn predicted 52% of the variance in expectancies. Similarly, the data from those such as Perkins & Wechsler (1996) with older adolescents and young adults indicate that norms perceptions explain more variance than social background variables but less variance than attitudes about drinking. It is

important, therefore, to account for the interplay of logical and emotional processing in media interpretation processes that lead to decisions based on persuasive messages.

Health advocates have been moving in this direction with the application of theoretical approaches such as the transtheoretical model, also known as Stages of Change (Maibach & Cotton, 1995). According to the Stages of Change (SOC) perspective, individuals considering a behavior change progress through stages characterized partially by different degrees of motivation and readiness to receive informational messages. Individuals at the earlier stages, known as precontemplative and contemplative stages of change, especially require motivation to progress toward later stages. Approximately 80% of individuals with a problem behavior are in these stages, called "preaction" stages (DiClemente (1993, 1999). According to the model, increased motivation can lead to more active decision making and a greater opportunity for health communicators to successfully provide influences for change. Indeed, the model suggests that the most that can be done for a precontemplative individual is to increase awareness, thereby raising doubts that can lead individuals to consider risks and problems associated with a problem behavior. As a result, decision-making theories and the SOC model together suggest that that it is important to consider how increased awareness might affect the processing of media messages about problem behaviors such as alcohol use.

A theoretical foundation for studying effects of targeting and resistance

The Message Interpretation Process (MIP) model developed by Austin and colleagues (e.g., Austin & Knaus, 1998; Austin & Meili, 1994; Austin, et al., 1999) provides a useful framework for tracing the effect of increased awareness through logic-based and affect-based

dimensions of decision making, building on social cognitive theory (Bandura, 1986) and expectancy theory (Goldman, Brown & Christiansen, 1987), and complementing the Elaboration Likelihood Model (Petty & Cacioppo, 1986). The MIP model proposes that internalization of a message occurs at a number of increasingly rigorous levels by way of a combination of logically and emotionally based processing strategies. The levels include desirability; perceived realism, norms and perceived similarity; identification; expectancies; and behavior.

In particular, the theory holds that internalization of a message can range from the belief that it may be representative of social norms, to the belief that it represents the individual's own experience, to the belief that it represents a reality to which an individual might aspire. Consistent with decision-making theory (e.g., Beyth-Marom, Fischhoff, Jacobs, Quadrel & Furby,1991; Fischhoff, 1992), the MIP model posits that affective and logical routes to decision-making interact, with both feeding into some of the same decision-making benchmark beliefs.

This interplay of logical and affective routes to decision making dovetails with dual-process theories of social judgment. According to Chen & Chaiken (1999), people rely on a combination of heuristic and systematic information-processing strategies to evaluate messages. Individuals applying logic to their analysis of media messages to determine acceptance of a message compare real-world and media-based reference groups. First, an individual will determine whether a portrayal seems realistic or normative--that is, "like most people" in the real world (Austin, et al., 1990; Austin & Meili, 1994, Gitlin, 1990). A realistic message has a better chance of surviving a tougher test, which is to analyze the message at a closer zone of relevance. This test determines how closely the portrayal reflects normative personal experiences, called

perceived similarity (Austin & Meili, 1994). Research has demonstrated that even children as young as third grade make distinctions between what is true for "most people" and what is true for their own family (Austin et al., 1990; Austin & Meili, 1994). High similarity or congruence with perceived norms of relevant reference groups can lead to the next benchmark of identification (Austin & Johnson, 1997a, 1997b; Austin et al., 2000), characterized by the desire to emulate a portrayal.

Increased identification with a reference group such as a model portrayed in advertisements can lead to changes in social reality construction or behavior, because identification tends to lead to the expectation that doing something consistent with that seen in the media will bring positive results. These beliefs, called expectancies, strongly and consistently predict behavior (Austin & Knaus, 1998; Austin & Meili, 1994; Austin, et al., 1999, 2000).

Social decision making takes place in an emotional context (Elias, Branden-Muller and Sayette, 1991), making it valuable to consider that while heuristic and systematic processing can occur independently, heuristics (such as desirability) can bias more systematic processing (Chen and Chaiken, 1999). The heuristic of desirability can bias more logical processing based on reality testing, leading individuals to draw conclusions based on wishful thinking rather than logic (Austin & Meili, 1994; Austin & Johnson, 1997a, 1997b; Austin, et al., 1999, 2000). This helps to explain why information-based campaigns often fail, particularly when logic-based appeals compete with research-based, more emotional and more frequently seen commercial appeals (Austin et al., 1999; Pinkleton, Austin & Johnson, 1999).

Interventions aimed at strengthened logical processing

Despite the power of emotional appeals, decision-making theory and the SOC model both suggest that decisions may be improved by raising individuals' cognitive effort during the interpretation process. People have a limited capacity for message-processing tasks and so frequently conserve resources by relying on heuristics, which are cognitive shortcuts (Anderson, 1985; Newell & Simon, 1972; Carroll & Johnson, 1990). This leads to decisions often made subjectively and intuitively (Tversky & Kahneman, 1982). If an individual does not see danger, such as in an alluring alcohol advertisement, the individual will not respond with suspicion or skepticism (Slovic, Fischhoff & Lichtenstein, 1982). This should make them more likely to embrace the heuristic of desirability. Increased awareness, however, can lead them to more actively consider the potential for risks and problems associated with a behavior (DiClemente, 1993, 1999), suggesting that they might consider behaviors advocated in a persuasive message more skeptically.

Evidence from tests of the MIP model exists to support this view. Although desirability of media portrayals appears to play a major role in the development of perceived norms, for example, it also seems that the cultivation of skepticism toward advertising can reduce positive norms surrounding alcohol use. Austin and Johnson (1997a, 1997b) found that skepticism had both immediate and delayed effects on third graders' interpretations of alcohol advertising and expectancies for alcohol use. The Persuasion Knowledge Model (Friestad & Wright, 1996) also suggests that people build up a resistance to persuasive strategies once they can identify them.

A variety of lengthy media literacy curricula have been developed to improve media consumers' decision-making abilities, with most aimed at middle school-aged children, but research suggests that even an extremely modest intervention can alter individuals' receptivity to media messages. Nathanson & Cantor (2000), for example, found that a two-sentence introduction calling attention to a particular character in a five-minute cartoon clip made children–especially boys–more likely to identify with the victim, reducing the effect of a violent message. Brief negative comments about violent acts in programming also have been shown to enhance skepticism and alter the effects of television messages (e.g., Hicks, 1968; Horton & Santogrossi, 1978; Corder-Bolz, 1980). These studies suggest that enhancing individuals' cognitive awareness during media exposure may increase skepticism, thereby strengthening the logical route to decision making, ultimately affecting the decision-making process itself.

How heightened awareness can affect the message interpretation process

The literature summarized here suggests that heightened awareness should affect the message interpretation process by enhancing skepticism, with the enhanced skepticism influencing both affective and cognitive aspects of decision making. In acknowledgment of the emotional and cognitive aspects of decision making, it is expected that skepticism itself has affective and logical components, which can be represented by trust (more affective) and perceived realism (more logical). It further is expected that the influences of skepticism on affective and logical decision making will be revealed somewhat differently.

This study tests a series of hypotheses aimed at tracing the effects of enhanced awareness through the decision-making process. More specifically, the hypotheses follow the paths

suggested by previous tests of the MIP model. Because the decision-making process represented by the MIP model appears to take place over time (Austin, et al., 2000; Austin & Knaus, 2000), it is expected that evaluations of the veracity of specific advertisements should relate more to global assessments of realism and desirability appearing early in the decision-making process than to variables more immediately related to behavioral intentions and behavioral outcomes. In other words, the effect of skepticism toward specific advertisements on logical decision making should appear as progressive and somewhat indirect.

On the other hand, because the MIP model suggests that the affective appeal of messages can overwhelm more logic-based evaluations of content, it is expected that the extent to which respondents find ads personally appealing will affect all variables in the MIP model. In other words, the influences of affective appeal on decision making should be seen as more direct and cumulative. Meanwhile, personal appeal should be affected by enhanced awareness and skepticism. This means that, by somewhat different routes, increased skepticism should both strengthen the logical aspects of decision making and dampen the power of advertising's affective appeal.

More specifically, the following series of hypotheses is proposed, summarized in sets that reflect the benchmark steps in the MIP model:

1. The effect of enhanced awareness on skepticism toward advertisements

H1a: Individuals who evaluate ads after answering an introductory survey of attitudes toward advertising and alcohol will rate ads as less trustworthy than individuals who evaluate ads before answering a survey of attitudes toward advertising and alcohol.

H1b: Individuals who evaluate ads after answering an introductory survey of attitudes toward advertising and alcohol will rate ads as less realistic than individuals who evaluate ads before answering a survey of attitudes toward advertising and alcohol.

2. The relationship of skepticism to overall appeal:

H2a: Individuals who rate particular ads as less realistic will be less likely to respond that the ads appeal to them.

H2b: Individuals who rate particular ads as less trustworthy will be less likely to respond that the ads appeal to them.

3. The relationship of skepticism and overall appeal to logic-based decision making:

H3a: Individuals who rate particular ads as less realistic will be less likely to respond that magazine ads more generally are a realistic source of information.

H3b: Individuals who rate particular ads as less trustworthy will be less likely to respond that magazine ads generally are a realistic source of information.

H3c: Individuals who rate particular ads as less appealing to them personally will be less likely to respond that magazine ads generally are a realistic source of information.

4. The relationship of skepticism and overall appeal to affect-based decision making:

H4a: Individuals who rate particular ads as more trustworthy will be more likely to respond that people in magazine ads are portrayed in desirable ways.

H4b: Individuals who rate particular ads as more appealing to them personally will be more likely to respond that people in magazine ads are portrayed in desirable ways.

5. The relationship of skepticism to perceived normativeness or personal relevance by way of logic- and affect-based processing:

H5a: Individuals who rate magazine ad portrayals as desirable will report higher levels of drinking-related behaviors as normative for college students.

H5b: Individuals who rate magazine ad portrayals as a realistic source of information will report higher levels of drinking-related behaviors as normative for college students.

6. The relationship of logic- and affect-based decision making to identification:

H6a: Individuals who rate magazine ad portrayals as a realistic source of information will be more likely to identify with advertised portrayals.

H6b: Individuals who rate magazine ad portrayals generally as desirable will be more likely to identify with advertised portrayals.

H6c: Individuals who rate particular magazine ad portrayals as appealing will be more likely to identify with advertised portrayals.

H6d: Individuals who rate magazine ad portrayals as more normative will be more likely to identify with advertised portrayals.

H6e: Individuals who rate magazine ad portrayals a more trustworthy will be more likely to identify with advertised portrayals.

7. The relationship of logic- and affect-based decision making to expectancies:

H7a: Individuals who identify more with magazine ad portrayals will report higher levels of positive expectancies for alcohol use.

H7b: Individuals who rate magazine ad portrayals as more desirable will report higher levels of positive expectancies for alcohol use.

H7c: Individuals who rate particular magazine ad portrayals as appealing will report higher levels of positive expectancies for alcohol use.

H7d: Individuals who report higher levels of drinking as normative will report higher levels of positive expectancies for alcohol use.

H7e: Individuals who report higher levels of global or message-specific realism will report higher levels of positive expectancies for alcohol use.

8. The relationship of logic- and affect-based decision making to drinking behavior:

H8a: Individuals who rate particular magazine ad portrayals as appealing will report more frequent use of alcohol.

H8b: Individuals who report higher levels of expectancies will report more frequent use of alcohol.

H8c: Individuals who report magazine ads as a realistic source of information will report more frequent use of alcohol.

Method

A purposive sample of 520 college students attending a western state university participated in a pencil-and paper-survey and assessment of alcohol-related magazine advertising in spring 2000. This assessment, called a "receiver-oriented content analysis," was designed to gather message receivers' impressions of message content and production features (Austin, et al.,

1999; Pinkleton, et al., 1999). The procedure allows researchers to draw conclusions about message content based on its apparent meaning to individual receivers, which can vary widely. Although expert coders trained to evaluate material on the basis of formal definitions and categories can provide reliable data, their interpretations may not reflect the views of some receivers. Not all message recipients respond similarly to the same types of messages, necessitating the development of segmentation strategies by marketers and advertisers. Thus, a receiver-oriented content analysis can provide individual-level evaluations of data regarding content that is more valid across a population.

A total of 22 undergraduate classes participated in the study. Of students participating in the study, 57% reported themselves as communication majors, while 43% reported that their major was outside of communication. Approximately 46% were male and 54% were female. The students ranged in age from 17 to 51 (M=20). Despite an effort to recruit a diverse sample, the ethnic breakdown of the sample largely reflected that of the university, with 86% identifying themselves as Caucasian.

Magazines were selected to represent the most popular consumer magazines for the young adult market according to Simmons Market analyses. The approximately 60 titles included women's magazines, men's magazines, news magazines, sports magazines, and entertainment magazines. Alcohol ads in each magazine for the month of November, 1999, were flagged. All magazines were alphabetized, and then a systematic random sample of every third alcohol ad was selected. Among all the ads flagged, 40 were sampled for the study. Duplicate ads were replaced following the same procedure used for the first sample. Ads were randomly

assigned to one of 10 orders, with four ads appearing in each order. The procedure ensured that respondents would view a representative sample of magazine advertising for alcohol.

Classrooms were assigned to participate in one of two different versions of the receiver-oriented content analysis. Both surveys were administered by trained experimenters who used the same written scripts to introduce the sections of the study. Each version contained three parts: 1) a battery of background questions assessing global attitudes about magazine advertising and alcohol, along with demographic information; 2) a series of four magazine advertisements, randomly assigned to classrooms, each of which respondents evaluated using a set of closed-ended questions; and 3) a final set of questions assessing drinking behavior. Participants receiving Version 1 answered the background questions before evaluating the series of four ads. Participants receiving Version 2 evaluated the series of four ads before answering the background questions. All participants answered the behavior questions last.

A total of 20 conditions existed such that each of the 10 sets of ads was used in both a Version 1 and a Version 2 format. Table 1 displays the breakdown of participants according to ad series order and version. The combination of classrooms and orders was designed to control for possible message-specific and message order effects, as well as to control for classroom-specific effects. It was not possible to ensure equal numbers of participants in each condition, although a successful effort was made to include at least 25 in each condition.

Table 1 About Here

Measures

Descriptive statistics for all measures used in the analyses are displayed in Table 2.

Table 2 About Here

Respondents were asked to list the three magazines they read most frequently. The top-mentioned magazines included *Cosmopolitan* (35%), *Sports Illustrated* (24%), *Maxim* (22%), *People* (22%), *Glamour* (14%), *Playboy* (11%), *Rolling Stone* (8%), *Time* (9%), *Newsweek* (7%), *Vogue* (6%), *ESPN* (6%), *Mademoiselle* (6%) and *Men's Health* (4%). All of these titles were represented in the sample, and all included alcohol ads. Nearly 97% mentioned a magazine they read "most frequently," although they were not asked to define how often they read each title.

Appeal of Individual Ads

Respondents' appeal towards alcohol ads was measured according to their response of whether each of the four ads viewed seemed "especially appealing to you," summed into an index with low reliability (alpha = .55). Despite the low reliability, an index was used because a factor analysis demonstrated that the items formed a single factor, and an examination of bivariate relationships with the individual items revealed consistent results. For each item, responses were coded as 0 for "no" and 1 for "yes."

Trust

To measure the extent to which respondents trusted each of the four ads seen, participants rated each ad for whether it "can be trusted," on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). The items formed a reliable index (alpha = .73).

Desirability

An index (alpha = .77) assessed the degree to which people in alcohol ads appeared to be attractive role models, on a seven point scale of "strongly disagree" (1) to "strongly agree" (7). Respondents' reported on whether "people drinking alcohol in magazine ads" seem to be "having fun," "are attractive," "popular," and "happy." The measures were drawn from previous studies testing the MIP model (e.g., Austin & Knaus, 2000; Austin, Pinkleton & Fujioka, 2000).

Realism

Respondents' view of reality with regard to alcohol ads was measured by a four-item index (alpha = .76) on a scale of "strongly disagree" (1) to "strongly agree" (7). Statements included "I think magazines are a realistic source of information for: What makes people popular, what makes people successful, how people like me act, and what is a current trend." The measures were drawn from previous studies testing the MIP model (e.g., Austin & Knaus, 2000; Austin & Meili, 1994; Austin & Johnson, 1997a, 1997b; Austin, Pinkleton & Fujioka, 2000).

Norms

Norms, also called personal relevance or similarity (Austin & Johnson, 1997a, 1997b; Austin et al., 2000), were measured with an index of four items (alpha = .80), on a scale ranging from "strongly disagree" (1) to "strongly agree" (7). The items included: "Most college students: play drinking games, drink alcohol, have ridden with a driver who has been drinking alcohol, have gotten sick from drinking alcohol."

Identification

Identification with, or the desire to be like, media portrayals was assessed by three items, on a scale ranging from "strongly disagree" (1) to "strongly agree" (7), with an alpha of .72. These items included: "I would like to do the things that people in ads do, I would like to look like people I see in magazine ads, and I would like to be like people in magazine ads." The measures were drawn from previous studies testing the MIP model (e.g., Austin & Knaus, 2000; Austin & Meili, 1994; Austin & Johnson, 1997a, 1997b; Austin, Pinkleton & Fujioka, 2000).

Expectancies

Respondents' expectancies for alcohol, beliefs of positive outcomes associated with drinking, were measured with a six-item index (alpha= .85) on a scale of "strongly disagree" (1) to "strongly agree" (7). The statements included were "drinking alcohol makes you feel happy, drinking alcohol makes a party more fun, drinking alcohol helps you fit in, an alcoholic drink is a good reward after a hard day, drinking together is a sign of a good relationship, and drinking alcohol is a good way to relax." The measures were drawn from previous studies testing the MIP model (e.g., Austin & Knaus, 2000; Austin & Meili, 1994; Austin & Johnson, 1997a, 1997b; Austin, Pinkleton & Fujioka, 2000).

Behavior

Measures were drawn largely from Johnston, O'Malley and Bachman (1996). Participants indicated the number of times "in the past six months" (alpha = .92) each respondent had been offered an alcoholic beverage; attended a party where alcohol was served; drank an

alcoholic beverage; and had four or more drinks in a row, all on 6-point scales (never; 1-2 times; 3-4 times; 1-3 times a month; 1 time a week; over once a week).

Behavioral Consequences of Drinking Alcohol

These measures also were drawn largely from Johnston, O'Malley and Bachman (1996) and from Austin et al (2000). Participants indicated the number of times "in the past six months" (alpha = .61) each respondent rode with a driver who had been drinking alcohol; got sick from drinking alcohol; and drank alcohol on a romantic date. These measures were analyzed separately from the other set of measures based on the result of a principal components factor analysis, which indicated that the measures formed two factors.

Analysis procedures employed

Differences between the two questionnaire/ad orders were assessed using the *t*-test. Hypotheses predicting associations among the measures consistent with the MIP model were tested via hierarchical multiple regression analysis. According to the MIP model, internalization of a television portrayal occurs at a number of increasingly rigorous levels using a combination of logical and emotionally based processing strategies. The levels include desirability, perceived realism, perceived norms for a relevant reference group, identification, expectancies and behavior. Sex and age were included as controls in a forced-entry series of blocks, with stepwise entry of variables used within each block. All independent variables were used to predict behavior; all except behavior were used to predict expectancies; all except behavior and expectancies were used to predict identification; all except behavior, expectancies and identification were used to predict norms; all except behavior, expectancies, identification and

norms were used to predict perceived realism; all except behavior, expectancies, identification, norms and perceived realism were used to predict desirability. Trust and realism of each ad were used to predict ad appeal. The equations thus tested the hypothesized MIP decision-making process working backwards from the final decision, in a way that allowed for the possibility that direct effects could emerge where only indirect effects were expected.

Results

The first set of hypotheses tested the effect of enhanced awareness on skepticism toward advertisements. Consistent with hypothesis 1a, and as shown in Table 3, individuals who evaluated ads after answering an introductory survey of attitudes toward advertising and alcohol rated ads as less trustworthy than individuals who evaluated the ads before answering a survey of attitudes toward advertising and alcohol. Similarly, in three out of four cases, individuals who evaluated ads after answering an introductory survey of attitudes toward advertising and alcohol rated ads as less realistic than individuals who evaluated ads before answering a survey of attitudes toward advertising and alcohol, as predicted by hypothesis 1b.

Table 3 About Here

Table 4, which displays the correlations among all variables used in the remaining analyses, confirms the assumption that trust of particular ads and realism of particular ads were correlated. Bivariate analysis of the individual trust and realism measures showed a correlation of .57 ($p<.001$) for the first ad, of .39 ($p<.001$) for the second ad, of .52 ($p<.001$) for the third ad, and of .41 ($p<.001$) for the fourth ad.

Table 4 About Here

The second set of hypotheses focused on the relationship of skepticism to overall appeal. As shown in Table 5, in two of four cases, individuals who rated particular ads as less realistic were less likely to respond that the ads appealed especially to them, providing partial support for hypothesis 2a. Stronger support was found for hypothesis 2b, that individuals who rated particular ads as less trustworthy would be less likely to respond that the ads appeal to them.

Table 5 About Here

The third set of hypotheses addressed the relationship of skepticism and overall appeal to logic-based decision making. Contrary to hypothesis 3a, there was no relationship between individuals' rating of particular ads as realistic and their reports that magazine ads more generally are a realistic source of information. Consistent with hypotheses 3a and 3b, however, individuals who rated particular ads as less trustworthy or as less appealing to them personally were less likely to respond that magazine ads generally are a realistic source of information.

The fourth set of hypotheses focused on the relationship of skepticism and overall appeal to affect-based decision making. Consistent with hypotheses 4a and 4b, individuals who rated particular ads as more trustworthy or as more appealing to them personally were more likely to respond that people in magazine ads are portrayed in desirable ways. The ratings of particular ads as realistic in one case also contributed significantly to reported desirability. The variance explained, however, was quite small (.009) and may not represent a meaningful result.

The fifth set of hypotheses investigated the relationship of logic and affect to perceived normativeness or personal relevance. Consistent with hypothesis 5a, which predicted that norms would develop partially on the basis of wishful thinking rather than logical comparisons, individuals who rated magazine ad portrayals as desirable reported higher levels of drinking-related behaviors as normative for college students. Overall ad appeal also had a small, positive relationship with normativeness. Contrary to hypothesis 5b, however, perceived realism of magazine ad portrayals had no relationship to the normativeness of drinking alcohol for college students, suggesting that these norms do not come–at least on a logical level-- from the mass media.

The sixth set of hypotheses focused on the relationship of logic- and affect-based decision making to identification. Consistent with hypothesis 6a, individuals who rated magazine ad portrayals as a realistic source of information were more likely to identify with advertised portrayals. The variance explained, however, was quite small. Stronger support was found for hypotheses 6b and 6c, with perceptions of desirability and particular ad appeal positively related to identification with advertised portrayals. Contrary to hypothesis 6d, normativeness was not related to identification. Consistent with hypothesis 6e, however, realism was associated with identification. Again, the affective route to decision making appeared stronger than the logical route at this point in the message interpretation process.

The seventh set of hypotheses investigated the relationship of logic- and affect-based decision making to expectancies. Strong support existed for hypothesis 7a, that individuals who identified more with magazine ad portrayals will report higher levels of positive expectancies for

alcohol use. Contrary to hypothesis 7b, global reports of desirability did not relate to expectancies. Ratings of particular magazine ad portrayals as appealing, however, had a small but significant relationship to expectancies. Normativeness did relate strongly to expectancies, as anticipated by hypothesis 7d. Realism, however, was only weakly associated with expectancies, a relationship posited by hypothesis 7e.

The final set of hypotheses addressed the relationship of logic- and affect-based decision making to drinking behavior. As proposed by hypothesis 8a, individuals rating particular magazine ad portrayals as appealing did report more frequent use of alcohol and relevant consequences, but the variance explained was small. Strong support, meanwhile, existed for hypothesis 8b, that expectancies would relate positively to frequent use of alcohol. Small but significant relationships also existed between perceived realism and behavior, consistent with hypothesis 8c, and between identification and behavior. For predictions of behavioral consequences related to drinking alcohol, support for hypothesis 8b existed, but no support was found for hypothesis 8a. Perceived norms also predicted the frequency of behavioral consequences related to drinking alcohol.

To summarize, as shown in Figure 1, support existed for most of the hypotheses, particularly for those related to the affective side of decision making. Increased awareness led to lower ratings of ad trustworthiness and realism. Trust, and to a lesser extent realism, of particular ads was related to overall ad appeal. Trust and overall appeal predicted global

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Figure 1 About Here

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assessments of realism, but individual assessments of realism were unrelated. Trust and overall appeal also related to global assessments of desirability. Desirability related to perceived normativeness of drinking for college students, but realism did not. Desirability and the appeal of particular ads predicted identification, but normativeness did not and realism was only weakly related. Identification and normativeness predicted expectancies, as expected, but desirability did not. The appeal of particular ads did have a weak but significant relationship to expectancies. As hypothesized, expectancies predicted drinking behavior, but inconsistent findings existed for the relationships between other decision-making variables and behavioral outcomes.

Discussion

The purpose of this study was to examine the effect of enhanced awareness during message exposure to college students' interpretations of magazine advertisements for alcohol. It was expected that heightened awareness would enhance skepticism, with the enhanced skepticism influencing both affective and cognitive aspects of decision making. Most of the hypotheses presented received support, with skepticism's effects on affective and logical decision making processes revealed somewhat differently.

As expected, heightened awareness led to increased skepticism, as measured by trust and realism of individual messages viewed by the participants. Heightened awareness, however, did not affect the appeal of the ads. This suggests that while students may possess the abilities to process messages skeptically, these skills may need to be activated. The results further indicate that critical thinking may affect decision making without altering the enjoyment of the experience. Because other work has found that enhanced awareness in the form of fictional

involvement may decrease enjoyment (Nathanson & Cantor, 2000), it appears that such side effects of critical media use may depend on the context. As with Nathanson and Cantor's study, the manipulation employed herein was extremely noninvasive: in this case the manipulation involved having respondents answer questions about what they think about ads. They were not told what to look for in the ads or that they should be involved in or skeptical of the messages.

Although the manipulation itself did not affect appeal, the affective side of skepticism–trust of the ads--did predict overall appeal of the ads evaluated by the respondents. Realism of the ads had very little effect. These results suggest that if media users are more trusting of the message type, they are more likely to let down their defenses and allow themselves to enjoy the experience. They may be less likely to think about the persuasive motive behind the entertaining message. That realism did not have much effect on appeal suggests that appeal is based more on enjoyment than logic, reinforcing the value of advertisers' reliance on emotional appeals.

Skepticism's effect on perceived realism of magazine advertisements for alcohol--the logic-based entry-level variable in the message interpretation process model–was not entirely as predicted. Trust predicted realism more so than appeal, which was not surprising, but realism of individual ads had no association with global judgments of realism in multivariate analysis. Although a bivariate association did exist, as shown in Table 4, the regression analysis showed that if the student trusted the ad, the student was willing to believe it whether or not it seemed realistic. This may reflect the fact that many mediated experiences occur outside the realm of personal experience, so credibility of the source is an important heuristic. When trust is violated,

a feeling of betrayal may reduce the logical embrace of the message more so than calling attention to unrealistic messages. This suggests that calling attention to advertisers' motives, which are to benefit themselves more so than the purchaser, could by decreasing trust have an effect on the logic-based processing of a message. That appeal had some effect on global realism judgments suggests that "logical" judgments are not purely logical, consistent with decision-making theory and consistent with other tests of the MIP model.

The effect of skepticism on desirability–the emotional entry-level variable in the message interpretation process model–was the reverse pattern of its effect on perceived realism. More specifically, trust was a minor predictor of desirability, while appeal was the primary predictor. Realism of particular ads had no association with desirability judgments. Because desirability is a more global assessment of appeal, the association between appeal and desirability is unsurprising. Although trust, which is the more affective side of skepticism, played a lesser role, it did have an additional indirect effect by way of its direct effect on appeal. This suggests the potential for a snowball effect of trust on decision making, whereby it exerts both direct and indirect effects on variables in the message interpretation process. The results support the proposition that logical and affective aspects of skepticism affect logic- and affect-based aspects of decision making in ways reflective of affect- and logic-based processing of messages.

The tests of hypotheses then investigated the relationship of logic and affect to perceived normativeness or personal relevance, which has been a frequent target of college-based intervention campaigns. Interestingly, students' views of advertising realism had no association with perceived norms. Instead, desirability of advertising portrayals predicted norms. It should

be noted that the variance explained by desirability was not extremely high, but this suggests that media messages may not contribute to norms perceptions by way of logical processing. Although they appear to do so via wishful thinking, it seems likely that norms develop largely based on non-media variables, such as personal experience, not measured in this study.

The tests of hypotheses continued along the decision-making benchmarks proposed by the MIP model. Previous tests of the model have suggested that both logic- and emotion-based processing feed into identification, but that emotion-based processing can have a larger effect (e.g., Austin & Meili, 1994; Austin & Knaus, 2000; Austin et al., 2000). Interestingly, in this study, both logical (realism) and emotional (desirability and appeal) variables predicted identification, but norms did not. Appeal had both a direct effect and an indirect effect, by way of its association with desirability. Consistent with previous tests of the MIP model, logic played a role, but its contribution was overwhelmed by appeal or wishful thinking. That norms did not predict identification suggests that students wish to emulate aspirant groups more so than extant peer groups.

As expected, and consistent with other tests of the MIP model, identification was the strongest predictor of expectancies. The small association of individual advertisements' appeal belies its sizable indirect association through identification, and through desirability by way of norms. It would be surprising to see much of a direct association of specific advertisement evaluations to global assessments of benchmark beliefs in the MIP model directly related to behavioral intentions and behavioral outcomes since some individuals viewed the ads after providing information about benchmark beliefs in the MIP model. The small association of

realism suggests that decisions at this point can be affected by logic-based decision making, but in the absence of motivation to apply logical, systematic processing, heuristics based on emotion can take over.

Finally, the results showed that expectancies strongly predicted behavior, consistent with previous studies. Norms also had some association to behavioral consequences such as riding with a driver who had been drinking, indicative of the social pressure existing in such situations. That realism and identification had small, direct effects on alcohol use could again suggest that further enhancement of the logical aspects of decision making, along with the motivation to apply such skills, could affect behavioral outcomes.

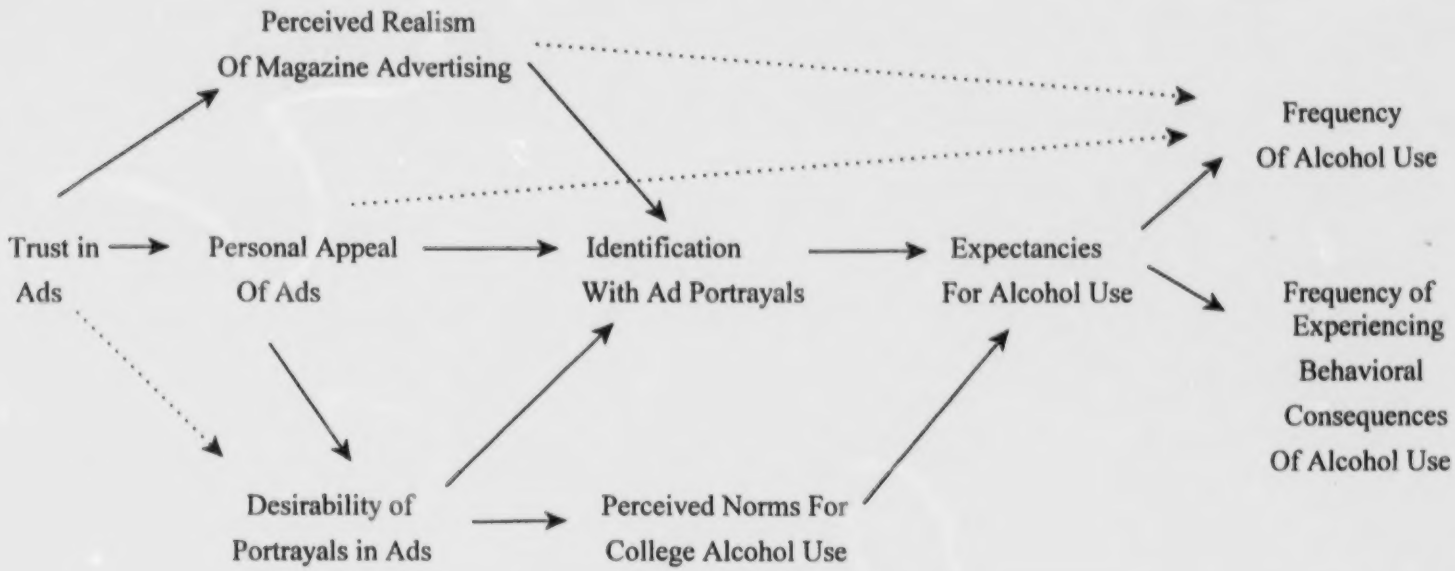
Although this study offered the strengths of random assignment using a large battery of messages, some limitations should be noted. First, the study did not measure variables assessing real-life experiences, which could provide more explanatory power than the media-based measures explored here. In addition, there was no distinction made between how students perceived norms and the extent to which they perceived those norms as desirable. The lack of ethnic and geographic diversity necessarily inhibits the generalizability of the results. Nevertheless, the study employed a large sample and focused on issues of internal reliability, appropriate to an experimental design.

Overall, the results of this study suggest that a minimal intervention designed to enhance awareness of the media use experience can enhance skepticism and have both direct and indirect effects on the message interpretation process that can lead to alcohol use and abuse. The promise of such an intervention lies in its ability to encourage individuals to arrive at more skeptical

conclusions on their own, without relying on preachy message strategies. The results suggest that a more involved intervention targeting individuals appropriately according to their levels of motivation and their stages of change, could lead to more sizable results.

Figure 1

Schematic representation of demonstrated effects of skepticism and appeal on the message interpretation process



Note: For the sake of visual clarity, paths explaining less than 3% of the variance in the dependent variables are not shown. Dotted lines represent paths explaining 4% or less of the variance. Control variables of age and sex also are not shown. All paths represent positive relationships.

Table 1

Cross tabulation of participants according to survey/ad evaluation version by ad order

Count

		Version		
		1	2	Total
AD ORDER	1	19	38	57
	2	30	19	49
	3	19	42	61
	4	26	17	43
	5	23	26	49
	6	24	29	53
	7	22	26	48
	8	30	21	51
	9	34	20	54
	10	27	28	55
Total		254	266	520

Note: each ad order contained four randomly assigned magazine advertisements which participants evaluated individually. Version 1 participants evaluated the ads after answering a series of background questions, while Version 2 participants evaluated the ads before answering the background questions.

Table 2

Descriptive statistics for variables used in the analyses

	N	M	S.D.	Range	Alpha
Realism of Ad 1	488	3.51	1.90	1-7	
Realism of Ad 2	485	3.71	1.90	1-7	
Realism of Ad 3	495	3.34	1.91	1-7	
Realism of Ad 4	493	3.37	1.92	1-7	
Index: Ad Especially Appeals to You	520	1.49	1.19	0-4	.55
Ad 1	485	.27	.45	0-1	
Ad 2	491	.44	.50	0-1	
Ad 3	495	.31	.46	0-1	
Ad 4	495	.46	.50	0-1	
Index: Ad can be trusted	520	12.60	4.51	4-27	.73
Ad 1	446	3.17	1.70	1-7	
Ad 2	437	3.23	1.64	1-7	
Ad 3	454	3.00	1.66	1-7	
Ad 4	457	3.19	1.70	1-7	
Index: Desirability of alcohol ads	520	23.43	3.88	10-28	.77
People in ads seem popular	499	5.44	1.46	1-7	
People in ads seem happy	511	6.11	1.09	1-7	
People in ads are having fun	508	6.08	1.16	1-7	
People in ads are attractive	513	5.80	1.40	1-7	
Index: Magazines are a realistic source of info.	520	8.11	3.62	3-19	.76
For: What makes people popular	509	2.74	1.51	1-7	
What makes people successful	511	2.99	1.56	1-7	
How people like me act	501	2.38	1.39	1-7	
Index: College student norms	520	23.14	3.96	7-28	.80
Play drinking games	506	5.98	1.24	1-7	
Drink alcohol	514	6.08	1.18	1-7	
Have ridden with drivers who have been drinking	460	5.21	1.54	1-7	
Have gotten sick from drinking	485	5.88	1.29	1-7	

Table 2 (cont.)

Descriptive statistics for variables used in the analyses

	N	M	S.D.	Range	Alpha
Index: Identification with people in magazine ads	520	11.86	4.28	3-21	.72
Do what they do	507	4.13	1.86	1-7	
Look like them	515	4.25	1.80	1-7	
Be like them	510	3.49	1.74	1-7	
Index: Expectancies for drinking alcohol	520	23.48	7.87	6-42	.85
Feel happy	498	4.67	1.56	1-7	
Parties are more fun	503	5.05	1.76	1-7	
Helps you fit in	503	3.36	1.67	1-7	
Good reward after a hard day	506	3.60	2.11	1-7	
Drinking together is a sign of a good relationship	504	2.75	1.78	1-7	
Good way to relax	501	4.05	1.90	1-7	
Index: Alcohol use frequency in past six months	493	14.81	5.82	0-20	.92
Offered alcohol	501	4.12	1.36	0-5	
Attended a party with alcohol	511	3.81	1.54	0-5	
Drank alcohol	512	3.69	1.63	0-5	
Drank 4 in a row	507	3.21	1.85	0-5	
Index: Behavioral consequences	500	2.80	2.72	0-15	.61
Rode with a driver that had been drinking alcohol	506	.85	1.19	0-5	
Got sick from drinking	515	1.01	1.15	0-5	
Drank alcohol on a romantic date	511	.95	1.30	0-5	

Note: A higher score indicates a more positive answer or a more frequent behavior.

Table 3

T- tests of questionnaire version by dependent variables used in the analyses

MEASURE	VERSION 1		VERSION 2				
	N	M	N	M	t	df	Sig 2 tailed
Ads 1-4 appealing to you	254	1.53	266	1.46	- .58	518	.56
Ads 1-4 can be trusted	254	11.97	266	13.20	-3.14	518	.00
Realistic (ad 1)	237	3.26	251	3.75	-2.91	486	.00
Realistic (ad 2)	234	3.44	251	3.96	-3.00	483	.00
Realistic (ad 3)	239	3.16	256	3.51	-2.06	493	.05
Realistic (ad 4)	236	3.30	257	3.43	- .76	491	.45
Global realism index	254	8.34	266	7.90	1.39	518	.16
Desirability	254	23.30	266	23.56	- .76	518	.45
Norms	254	22.95	266	23.32	-1.08	518	.28
Identification	254	12.01	266	11.72	.78	518	.44
Expectancies	254	23.73	266	23.25	.71	518	.49
Drinking Frequency	245	14.68	248	14.94	- .49	491	.62
Behavioral Conseq.s	242	2.78	258	2.83	- .20	498	.84

Note: Version 1 presented the ads after the survey questions; version 2 presented the ads before the survey questions. In both versions, behavior questions appeared at the very end. A higher score represents a more positive response (i.e. more trust, more realism, more frequent behavior, etc.).

Table 4

Correlations among variables used in the analyses

	Realistic 1	Realistic 2	Realistic 3	Realistic 4	Ads 1-4 appeal to you	Trust in ads 1-4	Desira-bility	Realism (global)	Norms	Identifi-cation	Expectancies	Drinking Freq.
Realistic 1												
Realistic 2	.00											
Realistic 3	.32***	.09*										
Realistic 4	.03	.20***	.03									
All ads appeal to you	.16***	.06	.20***	.15**								
Trust all ads	.46***	.28***	.37***	.21***	.31***							
Desirability	.12*	.14**	.05	.13**	.24***	.20***						
Realism	.18***	.12**	.16***	.10*	.23***	.23***	.17**					
Norms	.07	-.01	-.02	.05	.20***	.07***	.22***	.03				
Identification	.17**	.07	.08	.08	.43***	.27***	.44***	.33***	.17***			
Expectancy	.15**	.07	.06	.13**	.39***	.24***	.22***	.27***	.36***	.42***		
Drinking Freq.	.17**	.02	.07	.15**	.42***	.20***	.15**	.01	.31***	.37***	.58***	
Behavioral Conseq.s	.12*	.05	.08	.06	.31***	.16***	.14**	.10*	.32***	.28***	.45***	.53***

Table 5

Results of hierarchical regressions predicting decision-making variables and behavior

Variables: Dependent / Independent	ar^2 chg.	*df*	*F*	*b*
Behavioral Consequences				
1. Sex				-.01
Age	.00	2,423	.08	.01
2. Expectancies	.21	3,422	38.01***	.48***
3. Societal Norms	.02	4,421	31.72***	.15**
4. Ad Appeal	.02	5,420	27.39***	.13**
Frequency of Alcohol Use				
1. Sex				-.04
Age	.02	2,419	4.55*	-.14**
2. Expectancies	.31	3,418	68.95***	.58***
3. Ad Appeal	.04	4,417	63.83***	.24***
4. Global Realism	.04	3,416	58.31***	-.19***
5. Identification	.01	4,415	50.72***	.13***
6. Realism of Ad 1	.01	4,414	44.72***	.09*
Expectancies				
1. Sex				-.27*
Age	.07	2,438	17.36***	-.08
2. Identification	.14	3,437	45.89***	.41***
3. Societal Norms	.08	4,436	51.08***	.29***
4. Global Realism	.02	5,435	45.41***	.17**
5. Ad Appeal	.01	6,434	39.62***	.11**

Table 5 (cont.)

Results of hierarchical regressions predicting decision-making variables and behavior

Variables: Dependent / Independent	ar^2 chg.	*df*	*F*	*b*
Identification				
1. Sex				-.05
Age	.00	2,438	.45	.00
2. Desirability	.21	3,437	37.93***	.46***
3. Realism	.10	4,436	47.86***	.33***
4. Ads Appealing to You	.05	5,435	48.43***	.24***
Societal Norms				
1. Sex				-.03
Age	.00	2,438	.39	.00
2. Desire	.05	3,437	8.55***	.23***
3. Ads Appealing to You	.02	4,436	8.31***	.13**
Realism				
1. Sex				-.19***
Age	.04	2,438	8.67***	-.04
2. Trust Ads	.05	3,437	13.72***	.22***
3. Ads Appealing to You	.02	4,436	13.12***	.15***

Table 5 (cont.)

Results of hierarchical regressions predicting decision-making variables and behavior

Variables: Dependent / Independent	ar^2 chg.	*df*	*F*	*b*
Desirability				
1. Sex				-.10*
Age	.01	2,438	2.55	.04
2. Ads Appealing to You	.07	3,437	13.00***	.27***
3. Trust Ads	.03	4,436	11.81***	.13**
4. Second Ad is Realistic	.01	5,435	10.39***	.10*
Ad Appeal				
1. Sex				-.08
Age	.01	2,438	1.46	-.02
2. Trust	.09	3,437	15.70***	.31***
3. Fourth Ad is Realistic	.02	4,436	13.20***	.11*
4. Third Ad is Realistic	.01	5,435	11.46***	.10*

* = < .05; ** = < .01; *** = < .001

ar^2 change = adjusted R-square change for the block of variables entered in each step.

Variables entered using forced-entry regression of controls followed by simultaneous forced entry of independent variables, with models reflecting the cumulative order of progression predicted by the MIP model. Standardized betas reported from the block of entry.

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Play Theory Revisited: Dimensions of Play in Television and Internet Use

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Communication Theory and Methodology Division

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Abstract

It has been more than 30 years since William Stephenson's book "The Play Theory of Mass Communication" was published. Since then, an intuitively appealing and plausible theory has been largely neglected. Writing about it 15 years after the book's publication, Stephenson himself argued that the book had been a polemic for Q methodology and urged that the methodological approach to the theory be broadened in order to better understand it. This study attempts to do just that. Using a sample of 300 undergraduate students, the study tests 22 Likert-style items related to play and television use, and the same 22 items related to play and Internet use. These two sets of items are then subjected to factor analysis to determine the dimensionality of play as it pertains to the two media. Four television play factors and three Internet play factors emerge, all with reliability scores near .900. All the factors seem conceptually quite similar to definitions of play discussed by Stephenson. T-tests are then run on the mean scores of all 22 television items vs. all 22 Internet items. The most striking finding here is that television consistently rates higher as a recreational medium than does the Internet. The authors then discuss the implications of the study and call for further research to explore conceptualization and operationalization of "play," to broaden the sample and to examine play in the context of other media.

Play Theory Revisited: Dimensions of Play in Television and Internet Use

It has been more than 30 years since William Stephenson's book, *The Play Theory of Mass Communication*, was first published. Since then, an intuitively appealing and plausible theory has been largely neglected. As Sutton-Smith (1988: ix), said, "Stephenson's view that 'at its best mass communication allows people to become absorbed in subjective play,' has to be one of the most ignored of this century's scholarly comments on the nature of play and of mass media." Earlier Glasser (1982: 102) wrote, "His play theory of newsreading stands out as one of the few genuine attempts to understand the meaning of the enjoyment newsreading engenders," and called play theory an advance that could lead to better-informed and better-conceptualized studies. "At the very least, Stephenson's theory of newsreading suffers from a lack of serious attention and widespread apprehension about interpretive, as opposed to predictive, theories," Glasser said. Logan (1991: 36) noted the interdisciplinary nature of Stephenson's work and said Stephenson "attempted to do what many claimed was impossible: explore the complexity of the human mind and explore psychological events in their totality." But Logan acknowledged that Stephenson's ideas and his evangelism for Q technique, which Stephenson had developed and first written about in 1935, had gained little acceptance. Still some support for play theory has been found. For example, McCombs (a 1977 ANPA report cited in Wimmer and Dominick, 1994, 271) "found three primary psychological motivations for reading newspapers: the need to keep up to date, the need for information, and the need for fun." Also some of the findings in Uses and Gratification studies lend encouragement for future research on Play Theory.

Stephenson (1982: 15) himself acknowledged that he had tried "to kill too many birds with one stone in *The Play Theory of Mass Communication*: It was also a polemic for Q methodology." He argued for the need for a broader approach to fully understand the concept.

Play Theory

Stephenson was already in his mid-50s when he began mass communication research, first as an advertising research director in 1955 and then as journalism and mass communication professor at the University of Missouri in 1958. (For a sketch of Stephenson's life, see Barchak 1991: 28-30.) As Logan (1991: 27-29) noted, many of the concepts Stephenson brought to mass communication research were drawn from his earlier careers in physics and psychology:

> The two concepts that underpinned Stephenson's work in mass communication are complementarity, derived from quantum mechanics, and the centrality of the self, derived from psychology. ... To Stephenson, complementarity meant that when physical or behavioral scientists examine what scholars cannot directly see, touch, feel or otherwise experience, which includes subatomic particles as well as the inner-workings of the human mind, it is ... theoretically imperative to assume all probability states are operant before one measures or applies operational definitions, empirical methods and subsequent descriptions.

The subjective self, indeed, is central to Play Theory. Stephenson argued first that mass communication behavior must be defined by scholars as active rather than passive. He framed this in terms of "apperciation ... an old concept of systematic psychology." (Stephenson, 1988: 149) Apperciation is defined as "a readiness to perceive this or that in relation to prior systems of interest." (149) Media users, more specifically newsreaders in Stephenson's discussion, bring this readiness to their communication behavior. That is, they do not passively receive messages but actively bring their interests to bear on their media behavior. Stephenson also pointed out the importance of recognizing the voluntary nature of communication behavior.

Next, Stephenson made reference to the work of the psychiatrist Szasz, who explored the idea of pleasure, and found it to contain four distinct conceptual dimensions, the most important of which, to Stephenson, was "communication-pleasure."

> When two people meet and converse, they may say afterwards how much they enjoyed it. They have been talking in a complex way, now serious, now in fun, now at cross-purposes, now with gusto, in intricate interaction. The talk serves no apparent purpose. ... They are not trying to please one another. ... Afterwards, they both say how pleasant it was. This is communication-pleasure: its characteristic is that the two so talking are not expecting anything. Quite different from it is communication which is meant to bring about a change in one or both persons talking -- such as a command for action, a cry for help, a demand. Such we might call "communication pain."(57)

He then tied these two concepts to what he calls "two new theories": social control and convergent selectivity. All human behavior, Stephenson argued, revolves around one or the other of these concepts. Social control is tied to religion, politics, social status, etc. Behaviors related to social control are regulative in nature and define humans in their social context. Convergent selectivity, on the other hand, "allow(s) us opportunities to exist for ourselves, to please ourselves, free to a degree from social control." (2) Communication behaviors creating communication pain are those that lie in the realm of social control, which would include all communication activities engaged in for the purpose of producing change in the parties involved in the communication process. Communication behaviors creating communication pleasure are those related to convergent selectivity – voluntary, often seemingly random or apparently meaningless activities performed voluntarily for the simple purpose of self-enhancement or fun. Stephenson gave such examples as people sitting at the breakfast table or on the bus skipping from one newspaper article to the next for no real purpose other than to amuse themselves. This, he argued, is play.

Defining Play

While Stephenson described in complex detail the psychology underlying play and the way this relates to media use, he never really defined play, per se, or specifically indicated what

activities or aspects of self-enhancement can be considered play as opposed to something else. To put it differently, he never fully explored the dimensionality of his concept.

Mention "play," and a hundred images spring to mind. Narrow the term to "Play Theory," and dozens of books, most dealing with children and education, emerge. But search for books and journal articles focusing specifically on the role of play in mass communication, and you scarcely need more than 10 fingers (particularly if you don't count Stephenson's own list of publications). Thus the mass communication literature is not particularly helpful in defining the concept or in exploring its various dimensions.

However one defines it, scholars seem uniform in their contention that play has been with us for a long time. For example, Dutch scholar Johan Huizinga noted that play predates humans. "Play is older than culture, for culture, however inadequately defined, always presupposes human society, and animals have not waited for man to teach them their playing." (Huizinga, 1955: 1) Others hold that play is reserved for humans. Glasser (1982: 102), for example, said, "Play is symbolic and thus a distinctively human endeavor." But still it is as old as symbolic interaction among humans.

Huizinga's work had great influence on Stephenson, yet for all this influence, he never really defined play in specific terms either, saying:

> It was not my object to define the place of play among all the other manifestations of culture, but rather to ascertain how far culture itself bears the character of play. The aim is to try to integrate the concept of play into that of culture. Consequently, play is to be understood here not as a biological phenomenon but as a cultural phenomenon. ... The reader will find that I have made next to no use of any psychological interpretations of play however important these may be. (1955: foreword)

He did note characteristics of play, starting with the necessity that it be free, a definition with which most researchers agree. Other characteristics, according to Huizinga, are that play is

not "ordinary" or "real" life; it is limited as to time, place and space; it demands order; it produces tension through its uncertainty and chanciness; it has rules. He concluded:

> Summing up the formal characteristics of play we might call it a free activity standing quite consciously outside "ordinary" life as being "not serious," but at the same time absorbing the player intensely and utterly. ... It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. (1955: 13)

In a later chapter, Huizinga provided this broad definition:

> (P)lay is a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is "different" from "ordinary life." (1955: 28)

So what is play? What activities exemplify play? What motivations are related to play? Sutton-Smith, in his introduction to Stephenson's book, presents a table summarizing Huizinga's interpretations of the play concept from a variety of different languages. Included are the Greek concept of play as "lightheartedness and carefree joyfulness"; the Sanskrit notion in which rapid movement is basic to the concept; Chinese notions of trifling, romping and jesting; as well as a variety of other loosely interrelated examples. (Stephenson, 1988: x)

Later in the book, Stephenson mentions th Greek terms "agon" – games with two sides, "alea" – games of chance, "mimicry" – acting or pretending, and "ilinx" – producing dizziness or a sense of giddiness or excitement. He also discusses forms of play such as "pure" play and "fantasy" play. And he mentions many of the same definitions and examples from other languages as are mentioned by Huizinga. (Stephenson, 1988: 47)

Thus, much of Stephenson's work focused on establishing the fact of play as a concept relevant to communication behavior. But little effort was made to develop a reliable sense of the dimensionality of this concept.

Uses and Gratifications

Like Play Theory, Uses and Gratifications research focuses on the centrality of the self and the voluntary nature of communication behavior. As with Play Theory, Uses and Gratifications research holds that audiences are active rather than passive. Rubin pointed out in a recent review and synthesis of work in Uses and Gratifications that "involvement is a critical factor when seeking to explain communication processes and effects." (Rubin, 1998: 257) Thus the assumption of the Uses and Gratifications researcher is that the audience member is active and involved.

In another overview, Rubin summarized five basic assumptions of Uses and Gratifications:

1. Communication behavior such as media use is typically goal-directed or motivated.
2. People select and use communication sources and messages to satisfy felt needs or desires.
3. Social and psychological factors mediate communication behavior.
4. Media compete with other forms of communication for selection, attention, and use.
5. People are usually more influential than media in media-person relationships. (1993: 98)

Unlike Play Theory, however, Uses and Gratifications research does not use the subjective or "self" centered technique of Q methodology. Q methodology was useful in validating the theoretical contention that communication pleasure, or play, motivates some media use or that it is a gratification received from media use, but the Uses and Gratifications approach of larger samples and use of scales to establish typologies seems more appropriate for exploring the dimensionality of communication play. Indeed, the Uses and Gratifications typologies often include concepts very similar to play. In a 1994 book chapter, Rubin mentions research that has established such communication gratifications as diversion, escape, vicarious experience, pass time and relaxation, all of which echo examples given by Stephenson. Likewise, a recent

dissertation by Finucane identifies such goals as diversion, enjoyment, pastime, and escape as explanations for social uses of television. (1999)

Our study is an effort to draw on both the conceptualization of Play Theory and the methodology employed in much contemporary Uses and Gratifications research. There is a great deal of intuitive face validity in the idea that audiences voluntarily use media for the purpose of play. That is not to say that there are not other purposes as well, but many of the other goals that motivate use of mass media already have been thoroughly explored by Uses and Gratifications scholars. We hope to isolate the concept of play in this study and to explore its dimensionality more fully than did Stephenson, who endeavored primarily to establish the importance and validity of the concept, or Uses and Gratifications researchers, who do not seem to mention play specifically and who identify play-like goals as a few among many goals in a broader typology.

Research Questions

RQ 1: Can reliable indexes, similar to those employed by Uses and Gratifications researchers (See, for example, Finucane, 1999), be created for quantitative measurement of play as a reason for using television and/or the Internet?

Television and the Internet were chosen for three reasons: first, Stephenson had already examined Play Theory as it pertained to newspapers. (Stephenson, 1988) Second, television is a highly popular and ubiquitous medium. Third, the Internet is a new medium with many open questions about how and why it is used. We felt it would be valuable to take an exploratory look at differences between television and Internet use in terms of the concept of play.

Why Likert-style items on a survey questionnaire rather than Q methodology? First, Stephenson himself called for a broadening of the methodological approaches to defining and testing Play Theory. Second, development of reliable quantitative indexes could permit

examination of larger and more representative samples than is permitted by the more complex and "self" centered Q methodology. Third, this method lent itself more readily to an examination of the dimensionality of communication play.

RQ 2: What dimensions of play can be determined, and to what extent does the dimensionality of play vary from television to the Internet?

RQ3: To the degree that various dimensions of play are determined, is there a relationship between the primary type of play activity a person engages in with television and/or the Internet and various demographic and media use measures?

Methodology

Respondents for this study were 309 undergraduate and post-baccalaureate students from a university Liberal Education Requirement course called Media, Power and Culture at a large Midwestern university. This course was chosen for two reasons: First, Journalism and Mass Communication majors are not permitted to count the course toward graduation. Thus, although there were a few JMC majors (fewer than 10) in the course, we avoided the bias of using students whose academic and professional focus is on journalism and who may feel they have a direct professional stake in the outcome of the study. Second, the course represents a wide cross section of the university, with students from a variety of majors (50 different majors, including life sciences, professional and business schools, arts, humanities, social sciences, health disciplines and education). We hoped this wide variety of students would be more representative of the general population of television and Internet users, at least at the college level. The test was conducted in March 2000. Arrangements were made with the instructor at the beginning of the semester to refrain from discussing anything about Play Theory until after the test was conducted.

Subjects were provided with a questionnaire and a cover sheet. The cover sheet described the purpose of the study, indicated the voluntary nature of subjects' participation, and assured subjects of confidentiality. The questionnaire consisted of two sets of Likert-style statements, with which subjects were asked to agree or disagree on a 10-point scale, where 1 represented "disagree very strongly" and 10 represented "agree very strongly." First, there were 22 statements about play-related reasons for using television. Next, the same 22 statements were repeated with the Internet substituted for television. With these items we attempted to tap into a number of definitions of play mentioned in Stephenson's book (1988) and earlier in the groundbreaking work of Huizinga. (1955) These included the previously mentioned concepts agon (play involving two sides), ilinx (excitement), acting or pretending, exuberant play, recreation, relaxation, pastime, amusement, escape, fantasy and a number of other definitions Stephenson discussed.

The Likert statements were followed by 10 measures of frequency of use of various media (online services in various locations, magazines, newspapers, school books, pleasure-reading books, television and radio) and by demographic questions measuring sex, year of birth, year in school, amount of time spent working in an average week, whether the respondents live on or off campus and the respondents' academic majors. The complete questionnaire is attached as Appendix I.

Results and Discussion

The Respondents

As noted earlier, respondents were 309 undergraduate and post-baccalaureate students enrolled in a university Liberal Education Requirement course called Media, Power and Culture. They represented 50 different majors (fewer than 10 were JMC majors). In terms of sex, 54.6

percent of the respondents were women. The average age was 20.77 (median 20). The oldest respondent was 55, and the youngest was 18 (mode 20). In terms of year in school, 42.1 percent were freshmen; 35.7 percent were sophomores; 16.2 percent were juniors; 5.7 percent were seniors; and one person was a post-baccalaureate students. Fewer than 60 percent of the respondents reported living in dorms, with 42.4 percent saying they live off campus. While 30.3 percent of the respondents reported that they do not work, 11.9 percent said they work one to 10 hours per week; 24.8 percent reported working 11 to 19 hours per week; 21.8 percent said they work 20 to 29 hours per week; and 11.2 percent reported working 30 to 40 hours per week.

In terms of media use, 68.6 percent reported using online services on a daily basis at their residence, while 61.5 percent said they rarely or never used online services at work (Half of these may be the respondents who indicated that they do not work.). Just over 61 percent reported using online services at school at least once a week. Fifty-eight percent reported reading a magazine once a week or more often; 75.4 percent reported reading a newspaper once a week or more often; 75.9 percent reported reading a book for school once a week or more often, but 74.6 percent reported reading books for pleasure once a month or less often. In terms of television viewing, 60.3 percent said they watch two hours or less television per day. More than 60 percent said they listen to two hours or less radio per day.

The Research Questions

Since the first two research questions pertain to index creation, dimensionality, and reliability, we can address them simultaneously with factor analysis and reliability analysis. We ran two factor analyses (principal components method, varimax orthogonal rotation), one on the Likert items related to play and television and the other on the Likert items related to play and the Internet.

Insert Table 1 About Here

In both cases, our criteria for inclusion of an item were that it had to load minimally at .500 on one factor and no higher than .399 on any other factor. After eliminating ambiguous items, we ended up with 16 television-related items loading on four factors (See Table 1). The first factor consisted of items relating to watching television for fun and laughter, for relaxation, for recreation, because it amuses the respondent, and for play. These items seemed conceptually related to Stephenson's (1988) idea of "pure play." These are indicators of play in its most basic sense – simply for fun and for no other apparent motivation. The second factor appeared conceptually related to Stephenson's (1988) idea of "fantasy play." Items on this factor included watching television to escape, to pretend one's life is different, to imagine oneself as a participant in a program, for a sense of adventure, to be alone with one's thoughts, and to feel carefree.

We labeled the third factor "routine escapist play." The items loading on this factor included watching television to pass time, to avoid boredom and to put off doing work. These items suggested a form of play that incorporates both procrastination and escape – a way of temporarily avoiding the day's responsibilities.

Only two items – to test one's skill or knowledge and to pit one's skill or knowledge against others – loaded on the fourth factor, which we labeled "vicarious competitive play." Again, these items clearly differed from those loading on the other factors.

As Table 1 notes, Cronbach's Alpha reliability scores were quite high for all the television play factors. So, in partial answer to the first research question, it does appear possible to develop quantitative indexes to measure various dimensions of television-related play. In partial

answer to the second question, clear orthogonal dimensions for television-related play did emerge, two of which bore strong similarities to dimensions suggested by Stephenson (1988).

Insert Table 2 About Here

As noted above, a factor analysis also was conducted for the 22 Internet play items (Table 2). After eliminating ambiguous items, there were with 13 items and three factors in this analysis.

Although not precisely identical to factor 3 in the television test, factor 1 in this test was conceptually quite similar. It consisted of using the Internet to pass time, to avoid boredom, to put off work, as part of one's regular routine, and to test one's knowledge or skill. So we also labeled this factor "routine escapist play." As with factor 3 in the first test, these items seemed to pertain to using the Internet to escape and to avoid the daily routine. At first glance, the last item on this factor (to test one's skill or knowledge) doesn't seem to fit well, particularly since it loads on a different factor entirely for television. But anyone who is familiar with Internet games is aware of their utility for giving a user a procrastination break. Testing one's skill or knowledge is done differently in the different media contexts. With television, it is a more passive activity, such as watching a game show and attempting to beat the contestants to the answers. With the Internet, it is more interactive. Given the differences between the two media, it is not surprising that respondents would play with them differently and thus that the factor loadings would be somewhat different.

Factor 2 in the Internet test was identical, item-by-item, to factor 1 in the television test, and we again labeled it "pure play." In both tests, these factors seemed directly related to the pure play idea suggested by Stephenson. (1988)

The Internet test also produced a "fantasy play" factor, closely related but not identical to the factor of the same name in the television test. In the Internet test, the items loading on this factor were using the Internet to pretend life is different, to take sides in Internet competitions (e.g.: fantasy sports leagues) and to imagine oneself as a participant in another world.

Given the high Cronbach's Alpha reliability scores in the Internet test, again it appears that the answer to the first research question is that, it is possible to develop reliable indexes to measure play motivations for using television and the Internet. Given that television and the Internet are widely different media, it is not surprising that the dimensionality of play is different for the two media. On the other hand three fairly similar factors emerged for both media, two of which were conceptually quite similar to dimensions of play proposed by Stephenson in his seminal text. (1988)

Insert Table 3 About Here

In an effort to further distinguish between play as it relates to television use and play as it relates to the Internet, we ran a series of t-tests on the mean responses to each of the 22 television-related questions paired with its Internet-related counterpart (Table 3). The most striking finding here is that, with the exception of two pairs of items for which there was no significant difference and one item for which the Internet scored higher than television, the television means were all significant higher than the Internet means (meaning respondents agreed more that they used television for play than that they used the Internet for play). Thus, while the Internet does present slightly different dimensions of play than does television, at least among these respondents, television is the preferred medium of the two for play-related behavior. The

only item for which the Internet mean was significantly higher than the television mean was the item measuring a feeling of connectedness to others. Given that this item did not load on any of the play factors, respondents may have seen it more as a simple communication measure than as a measure of play. This item may simply be measuring the respondents' feelings regarding such Internet-specific options as e-mail, chat rooms, listservs, bulletin boards, etc.

Results regarding the third research question were inconclusive. Using factor score coefficients, we created a new variable for each of the four television play factors and for each of the three Internet play factors. Then, based on which scores were highest for each of these variables, we categorized each respondent as being primarily either a pure television player, a fantasy television player, a routine escape television player or a vicarious competition television player. A new categorical variable was created wherein each respondent fell into one of these four types. Likewise, we categorized each respondent as being primarily either a routine escape Internet player, a pure Internet player or a fantasy Internet player. Thus, again, a new three-category variable was created.

We then ran these new variables against all the media use questions and demographic questions to see if we could further describe people who use television or the Internet primarily for one form of play rather than others. As noted above, results of this test were inconclusive. In a large number of crosstabs and ANOVAs, only four relationships were statistically significant, which may be due to chance. Further, the direction and strength of these relationships were unclear. More testing is needed to determine a clearer answer to the third research question.

Conclusions

This study has, on a preliminary basis, begun to establish the dimensionality of play as it relates to mass media use. Two of the dimensions that emerged here, "pure play" and "fantasy

play," appear to be conceptually similar to dimensions of play mentioned by Stephenson (1988) in his effort to describe the concept. Two other dimensions, "routine escapist play" and "vicarious competitive play," were not specifically mentioned in Stephenson's work although he did discuss concepts such as "idling" and "pastime," which appear similar to our "routine escapist play" factor, and agon (involving two sides), which appears to be at least conceptually related to our "vicarious competitive play" factor.

All the factors that emerged in this study had reliability scores well above .800, suggesting that they may be of value in replicating this work.

While the factor loadings for the television items and the Internet items were similar, there were enough differences to suggest that these two media are not functionally equivalent in terms of play. Further, the consistently lower means for the Internet play items suggest that this medium is not seen (or at least not yet seen) as much as a recreational medium as is television, even among a group of college students who report using the Internet on a fairly regular basis. (It should be noted, however, that much of the material for this course is posted on the Internet, and students are encouraged to use the Internet in the context of the class.) This raises three questions: 1. Are there other dimensions of play relative to the Internet that are not measured here? 2. If students are not using the Internet as much for play as they are television, for what purposes are they using the Internet? 3. As the Internet evolves and people become more comfortable with it, will it come to be perceived more as a recreational medium?

Indeed, the study raises more questions than it answers, and these fall into three broad categories: conceptual- and measurement-related questions, sampling-related questions and media-related questions.

First, we must ask if we have exhaustively conceptualized and operationalized play. Are there other measures or dimensions of the concept that are not explored in this study? We hope to see further research that expands on our conceptual model.

Second, a clear limitation of this study is that it involves a convenience sample at one Midwestern university. This, of course, raises concerns about the generalizability of the results. We attempted to get a large sample with a wide array of majors in the hopes of enhancing the likelihood of representativeness, but it would be useful to replicate this study with a probability sample, or at least to replicate it in different regions of the country and in settings other than college campuses. It would be interesting to see whether the dimensionality of media-related play varies with age, education, media use or other demographic variables.

Third, we examined only two media types here. It would be valuable to replicate this study asking about other media, such as newspapers, magazines, radio, books, etc. Given the differences in the factor structures for television and the Internet, it appears likely that media-related play is not a simple concept. Consumers may play in quite different ways depending on the medium in question.

Despite these limitations and questions, we hope this study has reopened the door to a useful but long-neglected theory. The concept of media play is intuitively appealing and plausible. If, indeed, it is found to explain at least part of media use, this knowledge could be of great value not only to scholars but also to mass communication practitioners trying to better understand audiences in an increasingly competitive market.

Table 1
Factor Analysis* of Items Measuring Television Play

Items	Factor 1 Pure Play	Factor 2 Fantasy Play	Factor 3 Routine Escapist Play	Factor 4 Vicarious Competitive Play
Television provides me with fun and laughter.	.797	.148	.315	.006
Television provides me with relaxation.	.806	.243	.275	.004
Television provides me with recreation.	.642	.220	.132	.283
Television amuses me.	.824	.117	.265	.157
Television is a form of play for me.	.590	.370	.171	.229
Television gives me a form of escape.	.385	.684	.009	-.004
When I watch television, I pretend my life is different.	-.005	.814	.156	.126
When I watch television, I like to imagine myself as a participant in the programs.	.002	.746	.002	.163
Television gives me a sense of adventure.	.398	.705	.005	.006
When I watch television, I can be alone with my thoughts.	.348	.585	.119	.173
Television gives me a sense of feeling carefree.	.395	.653	.009	.218
Television is a way for me to pass time.	.387	.104	.802	-.003
Television helps me to avoid boredom.	.287	.009	.838	.006
Television is a way for me to put off work I should do.	.125	.009	.794	.155
Television helps me test my knowledge or skill.	.261	.168	.009	.871
Television helps me pit my knowledge or skill against others.	.118	.203	.007	.902
Eigenvalue	6.73	2.04	1.36	1.08
Percent of variance explained	42.06	12.77	8.49	6.72
Cronbach's alpha	.876	.845	.824	.873

* Principal component method with varimax orthogonal rotation (six iterations)

Table 2
Factor Analysis* of Items Measuring Internet Play

Items	Factor 1 Routine Escapist Play	Factor 2 Pure Play	Factor 3 Fantasy Play
The Internet is a way for me to pass time.	.841	.308	.007
The Internet helps me to avoid boredom.	.821	.361	.009
Using the Internet is a way for me to put off work I should do.	.782	.303	.160
Internet use is part of my regular routine.	.792	.255	.008
The Internet helps me test my knowledge or skill.	.609	.269	.366
The Internet provides me with fun and laughter.	.286	.769	.302
The Internet provides me with relaxation.	.370	.741	.228
The Internet provides me with recreation.	.341	.744	.175
The Internet amuses me.	.287	.804	.155
The Internet is a form of play for me.	.280	.790	.141
When I use the Internet, I pretend my life is different.	.123	.170	.849
I like to take sides in Internet competitions.	.138	.198	.808
When I use the Internet, I like to imagine myself as a participant in another world.	.111	.187	.886
Eigenvalue	6.78	1.78	1.05
Percent of variance explained	52.18	13.68	8.08
Cronbach's alpha	.896	.907	.854

*Principal component method with varimax orthogonal rotation (six iterations)

Table 3
Comparison of Mean Scores for Television Play Items with Mean Scores for Internet Play Items

Note: 1 represents disagree very strongly; 10 represents agree very strongly

Television Items	Television Means	Internet Means	Internet Items
Television gives me a form of escape.	6.53*	4.92	The Internet gives me a form of escape.
When I watch television, I pretend my life is different.	3.60*	2.72	When I use the Internet, I pretend my life is different.
Television gives me a sense of excitement.	6.64*	4.33	The Internet gives me a sense of excitement.
When I watch television, I like to take sides in televised competitions.	6.70*	2.93	When I use the Internet, I like to take sides in Internet competitions.
When I watch television, I like to imagine myself as a participant in programs.	4.94*	2.61	When I use the Internet, I like to imagine myself as a participant in another world.
Television gives me a sense of adventure.	6.30*	3.93	The Internet gives me a sense of adventure.
Television is a way for me to pass time.	7.43*	6.31	The Internet is a way for me to pass time.
Television helps me to avoid boredom.	7.20*	6.20	The Internet helps me to avoid boredom.

*Two-tailed t-test significant at p </= .05

Table 3 (continued)
Comparison of Mean Scores for Television Play Items with Mean Scores for Internet Play Items

Note: 1 represents disagree very strongly; 10 represents agree very strongly

Television Items	Television Means	Internet Means	Internet Items
Television viewing is a way for me to put off work I should do.	6.62*	5.61	The Internet is a way for me to put off work I should do.
When I watch television, I can be alone with my thoughts.	5.16*	4.49	When I use the Internet, I can be alone with my thoughts.
Television stimulates my imagination.	6.01*	4.56	The Internet stimulates my imagination.
Television gives me a sense of feeling carefree.	5.50*	4.00	The Internet gives me a sense of feeling carefree.
Television viewing is part of my regular routine.	5.75	6.17	Internet use is part of my regular routine.
Television helps me test my knowledge or skill.	4.93	5.06	The Internet helps me test my knowledge or skill.
Television helps me pit my knowledge or skill against others.	4.81*	4.03	The Internet helps me pit my knowledge or skill against others.

*Two-tailed t-test significant at p </= .05

Table 3 (continued)
Comparison of Mean Scores for Television Play Items with Mean Scores for Internet Play Items

Note: 1 represents disagree very strongly; 10 represents agree very strongly

Television Items	Television Means	Internet Means	Internet Items
Television gives me a break in the day's routine.	6.90*	5.60	The Internet gives me a break in the day's routine.
Television provides me with fun and laughter.	7.73*	4.53	The Internet provides me with fun and laughter.
Television provides me with relaxation.	7.47*	4.76	The Internet provides me with relaxation.
Television provides me with recreation.	6.22*	5.15	The Internet provides me with recreation.
Television amuses me.	7.50*	5.37	The Internet amuses me.
Television is a form of play for me.	5.82*	5.18	The Internet is a form of play for me.
Television makes me feel connected to others.	4.27	5.73*	The Internet makes me feel connected to others.

*Two-tailed t-test significant at p </= .05

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Appendix 1
television and internet questionnaire

Following is a list of statements that explain reasons why some people watch television. Read each statement, and indicate on a scale of 1 to 10 how much you agree or disagree with it as an explanation for why you watch television. A response of 1 would mean that you disagree very strongly with the statement; a 10 would mean that you agree very strongly. Obviously, we all have many reasons for watching television, so please read each statement carefully because you may agree with some of them and disagree with others. For each statement, please circle the number that best indicates how much you agree. There are no right or wrong answers; we just want your opinion.

	Disagree Very Strongly									Agree Very Strongly
Television gives me a form of escape.	1	2	3	4	5	6	7	8	9	10
When I watch television, I pretend my life is different.	1	2	3	4	5	6	7	8	9	10
Television gives me a sense of excitement.	1	2	3	4	5	6	7	8	9	10
I like to take sides in televised competitions.	1	2	3	4	5	6	7	8	9	10
When I watch television, I like to imagine myself as a participant in programs.	1	2	3	4	5	6	7	8	9	10
Television gives me a sense of adventure.	1	2	3	4	5	6	7	8	9	10
Television is a way for me to pass time.	1	2	3	4	5	6	7	8	9	10
Television helps me to avoid boredom.	1	2	3	4	5	6	7	8	9	10
Television viewing is a way for me to put off work I should do.	1	2	3	4	5	6	7	8	9	10

	Disagree Very Strongly									Agree Very Strongly
When I watch television, I can be alone with my thoughts.	1	2	3	4	5	6	7	8	9	10
Television stimulates my imagination.	1	2	3	4	5	6	7	8	9	10
Television gives me a sense of feeling carefree.	1	2	3	4	5	6	7	8	9	10
Television viewing is part of my regular routine.	1	2	3	4	5	6	7	8	9	10
Television helps me test my knowledge or skill.	1	2	3	4	5	6	7	8	9	10
Television helps me pit my knowledge or skill against others.	1	2	3	4	5	6	7	8	9	10
Television gives me a break in the day's routine.	1	2	3	4	5	6	7	8	9	10
Television provides me with fun and laughter.	1	2	3	4	5	6	7	8	9	10
Television provides me with relaxation.	1	2	3	4	5	6	7	8	9	10
Television provides me with recreation.	1	2	3	4	5	6	7	8	9	10
Television amuses me.	1	2	3	4	5	6	7	8	9	10
Television is a form of play for me.	1	2	3	4	5	6	7	8	9	10
Television makes me feel connected to others.	1	2	3	4	5	6	7	8	9	10

Following is a list of statements that explain reasons why some people use the Internet. You will notice they are very similar to the questions about television because we are comparing people's reasons for using these media. Read each statement, and indicate on a scale of 1 to 10 how much you agree or disagree with it as an explanation for why you use the Internet. A response of 1 would mean that you disagree very strongly with the statement; a 10 would mean that you agree very strongly. Obviously, we all have many reasons for using the Internet, so please read each statement carefully because you may agree with some of them and disagree with others. For each statement, please circle the number that best indicates how much you agree. There are no right or wrong answers; we just want your opinion.

	Disagree Very Strongly									Agree Very Strongly
The Internet gives me a form of escape.	1	2	3	4	5	6	7	8	9	10
When I use the Internet, I pretend my life is different.	1	2	3	4	5	6	7	8	9	10
The Internet gives me a sense of excitement.	1	2	3	4	5	6	7	8	9	10
When I use the Internet, I like to take sides in Internet competitions.	1	2	3	4	5	6	7	8	9	10
When I use the Internet, I like to imagine myself as a participant in another world.	1	2	3	4	5	6	7	8	9	10
The Internet gives me a sense of adventure.	1	2	3	4	5	6	7	8	9	10
The Internet is a way for me to pass time.	1	2	3	4	5	6	7	8	9	10
The Internet helps me to avoid boredom.	1	2	3	4	5	6	7	8	9	10
Using the Internet is a way for me to put off work I should do.	1	2	3	4	5	6	7	8	9	10

	Disagree Very Strongly									Agree Very Strongly
When I use the Internet, I can be alone with my thoughts.	1	2	3	4	5	6	7	8	9	10
The Internet stimulates my imagination.	1	2	3	4	5	6	7	8	9	10
The Internet gives me a sense of feeling carefree.	1	2	3	4	5	6	7	8	9	10
Internet use is part of my regular routine.	1	2	3	4	5	6	7	8	9	10
The Internet helps me test my knowledge or skill.	1	2	3	4	5	6	7	8	9	10
The Internet helps me pit my knowledge or skill against others.	1	2	3	4	5	6	7	8	9	10
The Internet gives me a break in the day's routine.	1	2	3	4	5	6	7	8	9	10
The Internet provides me with fun and laughter.	1	2	3	4	5	6	7	8	9	10
The Internet provides me with relaxation.	1	2	3	4	5	6	7	8	9	10
The Internet provides me with recreation.	1	2	3	4	5	6	7	8	9	10
The Internet amuses me.	1	2	3	4	5	6	7	8	9	10
The Internet is a form of play for me.	1	2	3	4	5	6	7	8	9	10
The Internet makes me feel connected to others.	1	2	3	4	5	6	7	8	9	10

Now we would like you to answer a few questions about yourself and your use of various media. Please remember that all your responses will be completely anonymous. No one will know this is your questionnaire.

How often do you:	Daily	Once or Twice a Week	Once or Twice a Month	Rarely or Never
Use Internet, World Wide Web or any other on-line service at home?	❑	❑	❑	❑
Use Internet, World Wide Web or any other on-line service at work?	❑	❑	❑	❑
Use Internet, World Wide Web or any other on-line service at school?	❑	❑	❑	❑
Use Internet, World Wide Web or any other on-line service at anywhere else?	❑	❑	❑	❑
Read magazines?	❑	❑	❑	❑
Read a newspaper?	❑	❑	❑	❑
Read books for school?	❑	❑	❑	❑
Read books for pleasure?	❑	❑	❑	❑

	4 hours or more	3 hours	2 hours	1 hour or less
How much time do you spend watching television in an average day?	❑	❑	❑	❑
How much time do you spend listening to the radio in an average day?	❑	❑	❑	❑

Are you: ❑ Male or ❑ Female?

What year were your born? _____

What is your year in school?

- ❑ Freshman
- ❑ Sophomore
- ❑ Junior
- ❑ Senior
- ❑ Post-bachelor's

How many hours per week do you work?

- ❑ 30-40
- ❑ 20-29
- ❑ 11-19
- ❑ 1-10
- ❑ zero

Do you live in a dorm or off campus?

- ❑ dorm
- ❑ off campus

What is your major?_____

Demystifying Technology and Empowering Students:
A Case Study of Communicative Strategy in a New Media Classroom

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ABSTRACT

Demystifying Technology and Empowering Students:
A Case Study of Communicative Strategy in a New Media Classroom

Students preparing for careers in journalism and mass communication increasingly need to understand and utilize new media technologies; however, computer anxiety can prevent many students from learning these necessary skills. This qualitative case study examines the communicative strategies employed by one instructor as part of his larger effort to make a comfortable classroom climate that minimizes the threat of technology and increases student confidence using new media. The data consisted of nineteen hours of ethnographic classroom observation, interviews with the instructor and seven students, and a student survey. Four central communicative strategies emerged that: 1) demystified technology; 2) empowered students; 3) constructed the role of the instructor; and 4) conveyed respect. Each of these strategies was employed as part of the instructor's goal to reduce student anxieties about computers, boost student confidence using new technologies, and create a classroom atmosphere that promotes student learning.

The advent of the Information Age has created demand in all sectors of the working world for professionals who are skilled in cutting-edge technologies. The need for new media knowledge and skills is particularly salient in mass communication industries, which are so often defined by their use of technology. The increasing importance of computer databases, Internet research, web site development, and other uses of new technology in newsrooms, advertising agencies, and public relations firms has spurred calls for journalism and mass communication curricula to prepare students with technical skills and technical literacy (Smith, 1995; Panici, 1998). Journalism and mass communication programs may play a critical role in developing knowledge about and attitudes towards new media, and they may affect how students approach new media technology once they embark on careers (Singer et al, 1996). Because technology is always changing, it is essential to develop approaches to new technology that enable future professionals to seek the information they need to adapt to newer and ever-changing forms of media, as well as attitudes that will motivate them to continue learning.

In spite of the demonstrated importance of new media for mass communication industries, in a survey of journalism and mass communication faculty who have incorporated new media into their classes, respondents raised concern regarding perceived student resistance to using new media. One respondent noted that a drawback to integrating new media into the curriculum is:

> Motivating students to learn about it via their own usage. Many are still technophobes when it comes to computers and the Net [Internet], despite increasing exposure. (p. 60, Panici, 1998).

"Technophobia," or computer anxiety, can be a significant barrier to students who may need the ability to work with new computer-based technologies for their chosen career paths, and it may therefore prevent access to many opportunities in the workplace. If, as Singer et al. (1996) argue, journalism and mass communication instruction critically impacts the attitudes and approaches that students develop towards new media, then appropriate instruction may be an essential component in helping students overcome computer anxiety. As the introducers of technology, educators can reduce or prevent computer anxiety through the attitudes they model towards technology and the level of comfort they provide in the learning environment (Weil, Rosen & Wugulfer, 1990). The present qualitative study examines the communicative strategies employed by one instructor as part of his larger effort to make a comfortable classroom climate that minimizes the threat of technology and increases student confidence using new media.

Research has demonstrated that college students experience computer anxiety in connection with a wide range of new technologies, and computer anxiety has been found to be a significant predictor in future use of a technology. (Scott & Rockwell, 1997). Computer anxiety may also be relatively common; Weil and Rosen (1994) found that almost 30% of first-year American university students experience some level of computerphobia. Certain categories of students may be more susceptible to computer anxiety than others. Some studies reveal that male college students have significantly less computer anxiety and higher computer confidence than females (Busch, 1995) and rate themselves as more competent with computers than female students rate themselves (Williams et al., 1993). Although Busch (1995) found no gender differences in students' rating of self-efficacy with simple computer tasks such as word-processing and

spreadsheet applications, male students gave much higher ratings with more complex tasks. These findings suggest that female students may be more likely to have computer anxiety, but the research in this area is not yet conclusive. The influence of experience with computers may act as a third variable in this relationship, as male students typically have more experience with computers than females do (Williams, et al., 1993; Levin & Gordon, 1989). Experience with a technology has been shown to be the strongest predictor of future use of new technologies (Scott & Rockwell, 1997) and may have a stronger effect than gender on attitudes (Levin & Gordon, 1989; Williams et al., 1993). This leads to a conundrum for educators: How can an instructor persuade anxious students to use the computers so that they will gain experience necessary to overcome their anxiety?

Furthermore, exposing anxious students to new media does not necessarily decrease anxiety but may actually exacerbate it (Weil, Rosen & Wugalter, 1990). For example, in a study of secondary school students, experience with computers provided by a computer literacy course was related to *less* positive attitudes rather than increasing interest or self-confidence among girls (Collis, 1985). Simply providing instruction is inadequate, suggesting that *how* computer instruction is given determines how students feel about and approach computers.

Ethnographic research on communication indicates that a teacher's use of language plays a key role in student attitudes and learning, and thus deserves examination in the context of new media instruction. Hymes (1972) and Philipsen (1994) argue that all speaking, including that of teachers, is socially situated. Speakers organize their speech purposefully, not randomly: speaking always entails choice according to context,

motives, preferences, and expectations. Through the choices they make, individuals can use their ways of speaking to carry social meanings. In the case of teachers, speech choices affect students' thought processes and the nature of what students learn (Cazden, 1988). According to Hymes & Farr (1982), students derive social meanings from instructor's wording, pronunciation, tone of voice, construction of sentences, and narrative organization:

> The patterning of discourse is central to [the classroom]: the arousal and satisfaction, or frustration, of expectations as to what will follow what, what kinds of discourse will occur, who will participate when and in what way, what counts as serious and what as play, how turns will be taken, what counts as having the floor, and the like.(p. 7, Hymes & Farr, 1982)

Thus, teachers' speech choices impact students' affective responses, social behavior and role enactment. The way a teacher talks and responds to students also reveals the teacher's specific cognitive strategies, social values and norms. (Mishler, 1972). This study investigates how one instructor invests his way of speaking with strategies that convey social meanings; from these meanings, students derive expectations about how they will participate, attitudes about the nature of technology, and feelings of personal comfort in a new media environment.

Methods

Over the course of an academic term, the researcher observed the classroom communication and interactions of Aaron Delwiche, a doctoral candidate and instructor of record in an introductory course to new media. Delwiche's communication style was selected as the focus of this study due to his reputation (established by publicly available teaching evaluations as well as student word-of-mouth) as an outstanding and effective

teacher in the area of new media. The particular course observed was offered in the School of Communications, University of Washington, designed to give students both a theoretical understanding of new media and practical experience in using new media applications. The first hour and fifteen minutes of each class session was devoted to lectures and discussions about new media topics, and the second hour and fifteen minutes was designated as "lab time" for students to learn on computers. Twenty-two junior and senior undergraduates were enrolled in the course, with fifteen females and seven males ranging in from 20-57 years in age (the median age was 22 years).

Ethnographic data were culled from nineteen hours of classroom observation. Interviews with the instructor and seven students were used to produce additional data, as well as a method for checking the validity of the researcher's interpretations and categories against the understanding of communicative meanings expressed by the participants themselves (see Philipsen, 1977). A brief survey administered to the students on the final day of instruction provided additional data.

Findings

From analysis of observations and interviews, four central communicative strategies emerged:

- Demystifying technology
- Empowering students
- Constructing the role of the instructor
- Conveying respect

Each of these strategies was employed as part of the instructor's global strategy to reduce student anxieties, boost student confidence using new technologies, and create a classroom atmosphere that promotes student learning.

Demystifying technology

Through his communicative choices, Delwiche makes technological concepts and processes less intimidating. As a communicative strategy, he frequently makes analogies about new technologies and related concepts to help students link them to familiar objects and ideas. He often uses analogies when explaining procedures in computer applications, such as when he helped a student who was learning to use Photoshop:

> The student had been experimenting with changing the size of her picture image, and as a result, the picture had become distorted so she asked Delwiche how to bring it back into proportion. Delwiche explained that whenever you alter the height of the picture, you must alter the width to the same degree in order to keep the proportions the same. He then added, "It's like when I'm baking bread and I double the recipe—I'll double the oil and double the flour…"

By making an analogy to an aspect of everyday life, Delwiche helps the student grasp a more abstract procedure dealing with proportionality. He also uses analogies to clarify new concepts and issues that arise in the lecture portion of class. For example, in a lecture about online-privacy, Delwiche illustrated privacy concerns related to the use of e-mail by likening e-mail to postcards. He explained that when you send a postcard, anyone sorting the mail or any postal carrier can read the postcard before delivering it to you; e-mail is then " like a tiny personal postcard that you're sending over the Internet." His frequent use of analogies may encourage students to construct their own analogies that make new media concepts more meaningful to the individual student. An instance of

a student creating his own analogy occurred after the instructor had been explaining the function of "toolbars" on web pages:

> T: So this is what a toolbar is. Do people understand what a toolbar is?"
> S: Like a roadmap?
> T: Yeah, like a roadmap, exactly.[1]

Delwiche further attempts to "demystify" technology by minimizing or clarifying the technical jargon used in class. Specialized terminology is introduced to students, but Delwiche provides translations of the jargon into more familiar language. In a discussion about transferring computer files, he used this translation technique:

> T: What do I mean by files from the 'local computers?' That's just 'geek speak' for the files that are stored on the computer that you're sitting at. Those are referred to as local computers.

Not only does the instructor provide a simple explanation of the specialized term, but he also labels jargon as "geek speak," thus further reducing the threat of technical language.

Interviews with students verify that Delwiche's treatment of jargon reduces their levels of anxiety:

> S_1: Well, *[pause]* for instance he'll mention a computer term, you know, we don't understand at all. And he *always* makes sure, you know, "If I say something that you don't understand, raise your hands and tell me." …
> S_2: Yeah, he does. He'll take something that you won't know what the heck it is, I mean even like today with the 'RGB,' hex and dex index [Red-Blue-Green and hexidecical values for colors, two concepts covered in class] and all that, he breaks everything down into, into a kind of language or a model that a student can understand, even a beginning student. Say, "Oh it's not so complicated, it's not this big scary thing. It's just basically *this*."
> S_1: Yeah.
> S_2: And I think that's, uh, *[pause]* it makes things less intimidating and it makes the students, more, uh *[pause]* well, it makes you have a little more confidence that you can actually, you know, do what's goin' on.

[1] In fieldnote or interview excerpts, T=instructor, S=student, I=interviewer.

The students express appreciation for the instructor's sensitivity to his own use of technical terms and the clarity of his language use. Their reaction also indicates that Delwiche's communicative strategy of simplifying jargon has an effect not only on students' understanding, but also on their comfort and confidence levels.

More subtle aspects of this instructor's use of communication further counters the sometimes daunting and overwhelming perceptions of new media. This is evident in the way that he narrates the steps involved in using computer applications so that it downplays the complexity. In one such instance, Delwiche had just finished giving an overview about how to transfer files from one computer to another using an application called "file-transfer-protocol" (FTP). He then demonstrated how to do it using a device that could project his actions on the computer onto a large screen:

> 1 As he clicked his "mouse" on a folder, he narrated what he was doing, explaining that first he finds the "students' folder, just like the students' folder on your computer." He pointed out another folder labeled "WSFTP" and commented, "This is just an FTP file." A dialog box
> 5 appeared on the projected screen showing what was happening on his computer. Delwiche continued, "And you can see a little window appears. There are three things you need to know: the name of the machine, your account ID, and your account password. That's all you need to know. Some of these other little boxes [referring to other options shown in the
> 10 computer's dialog box] you can just ignore, they just create details."

When he explains how to run a procedure on the computer, Delwiche typically simplifies the procedure by breaking it into a minimum number of steps (line 7), thereby reducing the perceived complexity of the operation. He often emphasizes how little knowledge is required to run the procedure with such phrases as "that's all you need to know." Furthermore, he incorporates vocabulary choices that serve the same function of minimizing any threat; in particular, his continual use of the modifier *just*, as in "just like the students' folder on your computer," or "they just create details," minimizes the rest of

the meaning of the phrase. As a result, even the minor aspects of his speech choices are used to convey his teaching philosophy of demystifying technology.

Students recognize the impact of his speech choices, as demonstrated by a passage from a student interview:

> Aaron [Delwiche] is very down-to-earth and he puts things in plain English and I am so thankful for that. I mean, it's very conversational, and that's *important* because I'm intimidated by computers too and I still am, much less so half way into this class but *[pause]* Aaron's very encouraging and he just puts it in just such a clear and simple way. And he's not condescending at all.

In addition to expressing gratitude for the instructor's choice of language, the student places value on it due to her fears concerning computers.

Another communicative strategy that Delwiche employs to decrease student anxiety when using computers involves attributing the source of problems to the computers or other external factors; by blaming the technology, he deflects the focus away from student inability or error. For example, after helping a student restart a computer that had "crashed," Delwiche announced to the rest of the class,

> Sometimes you see a bomb come up and the computer won't work. That doesn't mean you've done anything wrong. It just means we have old, funky Macs [Macintosh computers] that sometimes give out.

This announcement prepared students to expect problems and defined such problems as relatively common; as a result, students may not be as surprised when a computer crashes and perhaps less inclined to view it as a problem that they alone experienced. More importantly, Delwiche's announcement helps students associate the source of the problem with the computer hardware rather than as a problem that they have created.

Occasionally, in identifying the computer as the source of the problem, Delwiche personifies the computer as a way of taking pressure off of the student:

> A student was having trouble getting an image of a movie star to show up on her web page as she had planned. Delwiche looked at her HTML code [the programming language used to make web pages] and found an extra quotation mark. He pointed this out to the student.
> T: It's really picky.
> S: Gosh, no kidding!

In this episode, the instructor clearly indicates the exact source of the problem as an error in the code that the student had written, but at the same time, he frames the computer as inflexible and demanding; consequently, the focus of their conversation is on the nature of the computer, not student error.

Delwiche deliberately uses speech to demystify technology. By employing analogies, minimizing jargon, and downplaying technical complexity, he makes new technologies more familiar and less daunting. In addition, he inverts students' fear that they will cause an error on the computer; instead, he encourages them to disassociate problems from personal ineptitude and blame the computer. This reduces student anxiety and challenges the intimidating perception of computers as infallible, flawless technologies.

Empowering students

Delwiche employs communicative strategies to convey his philosophy that everyone should be able to claim the power of new technologies. His goal of helping students become independent seekers of technological knowledge and skills is supported by speech choices that encourage exploration and play. When he introduces new computer applications, Delwiche gives such invitations as "So now I'd just like for you to start playing with this yourself," or "This is time to experiment and play around with it,

just make notes of what it does." In this way, the instructor verbally encourages adoption of an exploratory approach to the computer and learning through trial-and-error. This verbal strategy is part of a larger strategy to reduce students' fears about making errors; by promoting the trial-and-error approach to learning, students discover that mistakes are part of the process. In addition, his invocation of *play* reverses the seriousness of the task and the seriousness of working with computers.

Many students in the class appeared to have adopted the exploratory approach. In one observed episode, two students had been assigned to experiment with the tools available in the Photoshop computer application:

> Sharon often appears apathetic to learning new computer applications and tends to rely on Tom's help when working on assignments. With this assignment, she again asks him for help. She hasn't tried any of the tools in Photoshop yet and seems to expect Tom to tell her what to do. He shows her how to open the color range window. She seems hesitant and asks him which tool she should use. Tom responds, "OK, just play around, it can't hurt it," and then returns to his own work.

Here, a student points another student towards more independent work by verbally invoking the exploratory approach advocated by his instructor. Another student, who had given a low assessment of her initial confidence with computers prior to the class, remarked,

> "...it's been encouraging because you don't have to have read a whole booklet of Windows [a computer operating system] to understand things. You can just go in there and experiment and figure it out for yourself."

For this student, adopting the experimental approach gave her a sense of self-sufficiency that raised her level of confidence.

Many of Delwiche's speech acts are used to promote this kind of self-sufficiency when working with computers. He takes a "hands-off" approach as an instructor, literally

standing with his hands clasped behind his back when helping students one-on-one with computer problems, giving them verbal guidance while ensuring that the student physically performs the functions he describes. At times, he explicitly points to the importance of direct experience with the computer and his verbal instructions to students often set up his expectations that they will do their own work. For instance, when he introduced an assignment that called for students to place visual images, he set it up by announcing:

> I'm expecting that people will encounter problems. You should do every single bit of work yourself, but you can ask other people for help, other classmates for help, ask me for help…The important thing is to show you know how to lay it out.

In this utterance, Delwiche outlines his expectation that students will experience the process first-hand, but he doesn't require completely independent work—in fact, he directly encourages collaborative efforts. Thus, he promotes a form of self-sufficiency in which students learn how to find and use information resources, including information from their colleagues, so that they can complete the process on their own.

Delwiche also attempts to promote student confidence by using his own language choices to help students construct identities for themselves as competent and self-reliant computer users. When addressing the class as a whole, he expresses his confidence in the students' abilities:

> Delwiche passed out an assignment sheet that asked students to build a small web site. As he handed it out, he said, "This assignment will be way easier than you think it will be…you'll encounter problems but you'll be able to figure it out…Be prepared to encounter problems that you don't expect, but you *will* solve them."

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The identity of students as competent computer users is also developed through the instructor's practice of crediting and validating student hypotheses and ideas. A typical class discussion reveals this teaching strategy:

1 T: Last week, I asked for your pet peeves about web design. Did anyone come up with anything?

A student raised her hand, and when Delwiche called on her, she mentioned that she didn't like "cookies."

5 T: Cookies? Can you explain what you mean?

She explained that cookies are programs that track where you go on the Internet. Several more students, all female, had their hands raised. Delwiche called on a second student, who stated that she disliked having to go through too many levels of a website to get the
10 information she wants.

T: That's a really great point. That's like a really great interface point.

He noted that designers need to take in the perspective of the viewers. Next, another student said that she didn't like sites that are
15 unnecessarily complex.

T: Yeah, definitely. Too much complexity.

He then started a wider discussion of the problems related to complex designs.

By inviting student opinions at the outset (line 2), Delwiche implicitly conferred importance on student thinking and structured the discussion around student ideas. He also validates student knowledge by asking a student to share her definition of a technological concept (line 5). Finally, he credits students' analyses by giving positive verbal evaluations of points raised by students in lines 10 and 15, and then uses those points to expand his own instruction. The validation and credit he gives to student input adds to the construction of students' identities as capable computer users with valuable ideas and thoughts about technology.

Interviews with students indicate that they have internalized this new identity:

S_1: Before this class I'd get frustrated and call my sister's boyfriend. He's a computer…he's IS [Information Science] and an engineer and builds his own computer. Or I'd go to my roommate next door, my friend next door, and, uh, like the president in my sorority is in computer science and she will come down and help me out. But *now* it's really encouraging because, um, we talked about symbolic analysts, basically [stuff on] computer programmers, and one of the characteristics of this kind of person is when they don't know what to do they know where to look for answers. So that's really encouraging because Aaron's given us a list of resources to look at and it's encouraged me to get those dummies books *[laughs]* those idiot's guides [beginning instruction manuals]. And those are really good because they help me, um *[pause]* put on programs, troubleshoot in Windows, and in Word, and so um, I think my perspective is much different now.

S_2: I think that's one of the big lessons of the class is Aaron's put it out that information is out there, we just have to be kinda bold enough and brave enough to seek it out.

The first student notes that prior to the class, she had been dependent on others to help her with computer problems, but that Delwiche's instruction encouraged her to find the solutions to her problems on her own. Significantly, she identifies herself in likeness to a "symbolic analyst," a term introduced in class which she associates with self-reliant learning. The comment by the second student indicates that he has also internalized the instructor's message about becoming independent seekers of knowledge.

Delwiche's communicative strategies empower students by building their self-confidence when working with new media. Students are directed towards increased self-sufficiency by his verbal promotion of exploratory and playful approaches to learning, as well as his expectations that they will be self-sufficient. The increased self-sufficiency results in student recognition of their abilities to use technology. Delwiche enhances this recognition by helping them to construct identities for themselves as competent and self-reliant computer users with valuable skills, and more importantly, valuable thinking.

Constructing the role of instructor

Part of Delwiche's strategy to create a more inviting, less intimidating new media classroom environment is demonstrated in the way in which he constructs his own role as an instructor. Just as he attempts to demystify technology, he also attempts to demystify authority in the classroom. In his speech choices, he minimizes his position as an authority figure by avoiding positioning himself as all-knowledgeable. This was evident in a class discussion, when a student asked him about the standardization of color value numbers for visual images. Delwiche prefaced his reply with "I'm sort of getting to the edge of my knowledge here," indicating to students that even the instructor has knowledge limits. His more subtle phrasing also avoids presenting his views as the definitive perspective; for instance, he frequently uses the phrase "I would suggest" to direct attention to the fact that his views are only his opinions, not absolute truths.

Delwiche also counters the perception of instructors as infallible by acknowledging his own mistakes. The following two excerpts are examples of this strategy that each occurred while the instructor was demonstrating using a projected image of his actions on the computer:

> As Delwiche attempted to demonstrate how to select files to be transferred, he discovered that one of his files is not in the folder. "I'm supposed to have a picture of Will Smith," he said matter-of-factly, "but I made a mistake, so it's not there."
>
> ...
>
> Delwiche, who had been typing on his computer to fill in the required information in the dialog box, paused and explained, "I'm going to stop for a second because I forgot to do something." His voice remained at the same, even level and he did not sound worried or overly concerned. He then pointed out that he needed to click the button for text formatting.

Delwiche's students perceive him to be a computer expert as well as their teacher. In pointing out his own mistakes, the instructor "demystifies authority" by challenging the notion of both teachers and computer experts as unerring. Furthermore, Delwiche encourages students to "call him" on errors or on his lack of clarity. This was observed during an explanation of a procedure on the computer, in which Delwiche used an unfamiliar technical term:

S: You used the word utilities. What does that mean?
T: Mmmm, thanks! For calling me on that.

In this case, pointing out the instructor's lack of clarity is more than recognizing his errors; it also draws attention to the responsibility of the instructor to make material understandable.

Delwiche chooses additional forms of speech that indirectly place responsibility on himself to make material understandable. This is most evident in the phrase he utters more than any other: "Does that make sense?" He uses this phrase to check in with students and provide openings for questions, usually after explaining procedures, introducing new concepts, and answering students' previous questions. Significantly, he chooses this phrase, which emphasizes the instructor's ability to convey information clearly, rather than "Do you understand?," which inquires after the students' ability to comprehend. In interviews, students interpreted this phrase as the instructor asking "Have I gone too fast for you guys?" and "Have I exceeded the knowledge that you have?," again assigning responsibility to the teacher to pace his instruction appropriately for students.

Delwiche actively uses speech choices to construct an instructor role that downplays the sense of authority and conveys to students that the instructor carries

responsibility for their learning. At the same time, the role he creates for himself helps to take pressure of students by indicating to them that: 1) everyone, even teachers of new media, make mistakes, and therefore it is permissible for them to make mistakes; and 2) if they experience difficulty understanding the material, if may be due to the instructor and not their own inability to comprehend. Consequently, his communicative strategies minimize authority and alleviate anxieties about student/teacher roles, and thereby help to make the new media classroom less intimidating.

Conveying Respect

Another way in which Delwiche fosters a less threatening atmosphere for students is through his personal interaction style. In particular, through his use of speech, he conveys respect for his students. This is manifested in the way that he values student input by giving positive evaluations of student contributions with comments such as "Great question!" and "Thanks for raising that point." Students credit Delwiche's speech choices with adding to their sense of comfort in class:

> S: I think that he *knows* so much and I can tell by everything he does that he's *so* knowledgeable about computers, but I feel like I can still ask him the most dumb question in the world and he would be so nice about it and so open-minded, like I could ask him anything and not be embarrassed. And I always feel like he's so enthusiastic about everything and really open-minded toward any comments where like maybe other professors are a little more *[pause]* not willing to take the time to explain things that they think are too simple or that think you should know, and I think he would take the time to tell you anything.
>
> I: And is there anything in the way that he uses communication, in particular speech, that gives you that feeling about him?
>
> S: He's constantly asking for our opinion and feedback and what we think about things and our own experiences, not his experience, and he's always validating *everyone's* experience, not putting, you know, not acting like anyone's is unimportant.

This student perceives that the instructor, as evidenced in his speech communication, values students' contributions and that this helps create a sense of security and ease.

Delwiche also conveys respect by employing politeness strategies in his interactions with students. Courtney Cazden (1988), an educational ethnographer, argues that teachers utilize forms of politeness to mitigate their actions that infringe upon students. According to Cazden, the nature of teaching continuously involves "face-threatening-acts" which constrain students' freedom of action by requiring that students perform (or desist from) stated actions. Calling upon students to answer questions, instructing them to follow directions, or disciplining students all fall under face-threatening-acts. Teachers may soften their face-threatening-acts using forms of politeness that minimize the imposition on students by expressing deference and respect. Delwiche frequently employs such tactics in his interactions with students. Rather than stating directives or imperatives, he opts to use polite requests. Instead of directing a student to teach another student an application, for instance, Delwiche asked, "Would you mind showing Karen how to use it now that you know?" Similarly, he issues invitations rather than orders, as in this announcement he made after students had been "exploring" multi-user domains (MUDs): "At this time, you're welcome to keep playing around in the MUDs, [or] you're welcome to work on your project." The addition of giving students a choice in this utterance even further minimizes the imposition of the instructor on the student. In another episode, an older, female student is reluctant to take part in the assignment, which is to join a type of interactive "virtual environment," called

a multi-user domain (MUD). Delwiche again uses a polite invitation to mitigate the imposition created by the assignment:

> The student approached Delwiche and told him that she was skeptical about joining a MUD. She started to move towards a computer, and Delwiche followed behind her, asking, "Are you going to check it out?"
>
> S: No. I think it's a total waste of time.
>
> She explained that she doesn't even watch television and wants to spend time being "herself."
>
> T: Why don't you try it, just to see what it's like.
>
> S: *[jokingly]* Well, OK, if you're forcing me.
>
> T: *[also jokingly]* Yeah, I'm gonna force you.

As in all of the examples of politeness, the instructor's invitation "Why don't you try it…" expresses a sense of deference and respect by providing social distance and implying that room for negotiation exists. Interestingly, the humor in the last two lines seems to derive from the mere notion that Delwiche might actually force a student to follow his orders.

Face-threatening-acts are most pronounced in situations requiring classroom control, and it is in these situations that Delwiche's politeness strategies stand out in greatest relief. Rather than reprimanding students, Delwiche applies polite requests, invitations, and statements of his own preferences. Polite classroom control often occurs in the transitions between a break and the start of a class session when students are typically using the computers for e-mailing. Delwiche usually announces to the class: "Go ahead and get out of your e-mail. 'Control O' will suspend your message." His use of "go ahead" makes this utterance an invitation rather than a directive. When individual students choose to ignore this first utterance, he asks in a slightly less polite tone of voice,

"OK, can you get out of your e-mail?" Yet even if his tone is less patient, he continues to use a request in place of a reprimand or imperative.

In another episode, Delwiche had given an in-class assignment to try out a new application; this assignment was intended to consume the entire class session. Five minutes after the assignment was given, a student—who had previously tried the instructor's patience by making him give a second request to discontinue e-mailing—had stopped working on the assignment and had moved away from her computer to talk with a friend. Delwiche approached her and asked her if she had tried out the application and she replied that she had. Delwiche then said:

> I'd really rather you wait and check it out some more. That's what the class is spending its time doing.

Again, the instructor chose to show respect for the student by stating his preferences rather than issuing an order.

The most dramatic and complex instance of polite classroom control occurred when the instructor addressed the topic of plagiarism with the entire class:

> He started by explaining that he had assumed that as juniors and seniors, everyone knew how to cite sources and understood the meaning of plagiarism. He said that he realized that not everyone did seem to know what plagiarism is, adding, "I think maybe people just don't know…from now on, I'll make sure to talk about his at the beginning of class so that there won't be any misunderstandings about this in the future." His tone remained calm with a slightly rising intonation as his said this, and his facial expression was relaxed with no evidence of anger or irritation. Delwiche explained what plagiarism is and what forms it can take. He then detailed why he considers this to be an important issue. His tone became graver and he spoke more slowly and deliberately. First, he explained the importance of honesty, truth, and giving authors proper credit. As his second reason, he said, his voice becoming more forceful and lower in pitch: "I *hate* being a cop. I really hate that. I hate the authoritarian position of teachers—it should've gone out with segregated dorms. And so I hate it when I'm thrust into a position of playing cop." His voice changed back to its usual fairly rapid and higher pitched

modulation. "I apologize to all of you because I know you haven't plagiarized, but I wanted to make sure this is totally clear before you start
20 the project. Not to be negative and authoritarian, but it is one of my pet peeves."

In fact, Delwiche was aware at this time that one of the students had plagiarized, but as a face-saving strategy, he avoids accusing the student of a deliberate violation, preferring to attribute the problem to ignorance and his failure to address the issue earlier. At the same time, he stresses the seriousness of the issue and his dislike of playing an authoritarian role, and in line 16, he places responsibility on students not to create a situation requiring authoritarian measures. His apology in lines 18-20 demonstrates respect for student integrity—and possibly provides a face-saving function for the student who had plagiarized—and simultaneously makes the instructor's expectations clear. Finally, his last sentence distances himself from his authority position while reminding students that this authority position still exists. Thus, Delwiche's communication in this instance balances the necessity of assuming an authority role with politeness strategies that convey respect for his students.

The forms of respect that Delwiche conveys through both his use of politeness and his positive evaluation of students' contributions help establish a new media setting in which students feel valued and more confident. In this way, forms of respect contribute to a classroom setting that is conducive to learning new technologies, even for students who may be initially apprehensive or anxious.

Conclusions

The fact that students observed for this study actually enrolled in an introductory course to new media suggests that they understand the value of technical literacy and may

experience less computer anxiety than others; yet even this group reported some level of "technophobia." Responses to a questionnaire reveal that prior to taking the class, 44% of the sixteen respondents had little to no confidence in their ability to learn new computer skills, 70% felt at least somewhat intimidated about using computers—with 31% reporting feeling intimidated to very intimidated, and 47% would have been unlikely or very unlikely to seek out information on their own about technology.[2] However, after taking the class, their attitudes and approaches had altered. No students reported having a total lack confidence in their ability to learn new computer skills and only one reported little confidence; conversely, 88% considered themselves confident to very confident in their abilities by the end of the class. No students reported feeling intimidated to very intimidated, with 82% reporting little or no feelings of intimidation. Finally, by the end of the term, 81% reported that they would likely or very likely seek out information about new technologies on their own.[3]

Certainly much of their increased confidence and lowered intimidation resulted from their added experience in using new media. However, since mere exposure to new technology is generally insufficient to decrease student anxiety and apprehension, students' comfort with technology is largely dependent on instructional style (Collis, 1985; Scott & Rockwell, 1997; Weil, Rosen & Wugalter, 1990). In this case study, analysis of classroom observations, interviews, and questionnaire responses indicate that the instructor's purposeful use of language contributed to significant cognitive and attitudinal changes that helped defuse computer anxiety. By demystifying technology, the instructor encouraged students to redefine technology as less serious, less

[2] See Table 1 in the Appendix.
[3] See Table 2 in the Appendix.

overwhelming, and more familiar. He also utilized speech choices to influence how students identified themselves in relation to the technology and the instructor, and through these identity constructions, empowered the students with increased confidence in their own abilities. Finally, his language choices fostered an atmosphere in which students were clearly valued and respected, thereby creating a "safe" learning environment that made the risks of encountering unfamiliar tasks and technologies less threatening. The impact of the instructors' speech choices is most revealing in the students' appropriation of his communicative strategies. As the term progressed, students increasingly created their own analogies to make technology more familiar, referred to aspects of play and exploration in their discussion of computer applications, and verbally likened themselves to "symbolic analysts" and other competent computer users. In these ways, students began to demystify technology on their own and empower themselves. These findings suggest that educators' thoughtful communicative strategies may play a powerful and effective role in reducing computer anxiety and redefining students interactions with technology.

The ubiquity of new media in journalism and mass communication professions makes some level of technical literacy a necessity for graduates of journalism and mass communication programs. Computer anxiety threatens to impede many students' desires to become technically literate and therefore this issue deserves attention from educators as we design and research technical literacy curricula. Further research on other aspects of instruction that impact student attitudes and approaches, such as assignment and course design and evaluation/assessment techniques, may inform our understanding of how students are affected by computer anxiety and how educators can effectively address

this problem. Rather than assuming that providing instruction in new media is enough, we need to think about *how* the instruction is provided. In a society where knowledge about new technologies and the ability to use them results in increased economic opportunity, power, and cultural status, helping students overcome apprehension and anxiety towards new media is more than good pedagogy: it is ultimately an act of student empowerment.

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APPENDIX: Questionnaire Results

Table 1: Student self-assessment of skills and attitudes prior to taking CMU 300: Introduction to New Media.

Q1: Before taking this class, how confident were you in your ability to learn new computer skills?

	Not at all confident	Little confidence	Somewhat confident	Confident	Very confident	TOTAL
% (n)	31% (5)	13% (2)	25% (4)	31% (5)	0% (0)	100% (16)

Q2: Before taking this class, how intimidated did you feel about using computers?

	Not at all intimidated	Little intimidation	Somewhat intimidated	Intimidated	Very Intimidated	TOTAL
% (n)	13% (2)	19% (3)	38% (6)	13% (2)	19% (3)	100% (6)

Q3: Before taking this class, how likely would have been to seek out information about technology on your own (e.g., how to fix a computer problem, how to use a new computer application, etc.)?

	Very unlikely	Unlikely	Somewhat likely	Likely	Very likely	TOTAL
% (n)	38% (6)	19% (3)	19% (3)	19% (3)	6% (1)	100% (16)

Table 2: Student self-assessment of skills and attitudes after taking CMU 300: Introduction to New Media.

Q1: How confident are you now in your ability to learn new computer skills?

	Not at all confident	Little confidence	Somewhat confident	Confident	Very confident	TOTAL
% (n)	0% (0)	6% (1)	6% (1)	38% (6)	50% (8)	100% (16)

Q2: How intimidated do you feel now about using computers?

	Not at all intimidated	Little intimidation	Somewhat intimidated	Intimidated	Very Intimidated	TOTAL
% (n)	38% (6)	44% (7)	19% (3)	0% (0)	0% (0)	100% (6)

Q3: Before taking this class, how likely would have been to seek out information about technology on your own (e.g., how to fix a computer problem, how to use a new computer application, etc.)?

	Very unlikely	Unlikely	Somewhat likely	Likely	Very likely	TOTAL
% (n)	6% (1)	0% (0)	13% (2)	31% (5)	50% (8)	100% (16)

An Activist Pedagogical Approach:
Creating a Media Resource Kit for Community Organizations

Submission to the 2000 AEJMC Conference

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Abstract
While some community organizations manage to secure a formidable place on the media agenda, many groups remain unaware of the necessary steps in gaining media access. In an effort to further integrate activist pedagogy into the classroom, a media resource kit was developed by students for a community organization in search of media coverage. Through this endeavor, the students learned the importance of their own work, their positions as future professionals in the communication field, and the role media can play in the growth of a community organization.

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Introduction

In the continuous spiral of media corporatization and multi-million dollar media mergers, it is essential that researchers maintain a focus on the voices of minorities, marginal groups and social dissenters. The persistent homogenization and domination of media power leave little room for those outside of the mainstream to be heard. However, some community organizations and social movements manage to secure a formidable place on the public agenda in this country. In an effort to increase the number of community voices heard, it is imperative that researchers examine the strategies community organizations enact when gaining media attention.

However, as the academy and the industry continue to search for new avenues into media coverage, many nascent community organizations remain uninformed. While some groups are clearly more media savvy than others, an abundance of misinformation persists as to the role media should play in a small community organization. Therefore, our challenge as academicians must be to expand the pragmatic information available to community organizations while augmenting the sphere of pedagogical learning in the classroom. These ambitious goals were recently achieved through the student production and presentation of a media resource kit for an area community organization.

Throughout the media resource kit production, the students expressed their desire to create a useful media resource that a community organization could actually apply on a regular basis— and as this paper should demonstrate, the final product met this goal. However, during the course of creating the media resource kit, the students learned the importance of their own work, their roles as future professionals in the

communication field, and the role media can play in the growth of a community organization. The final project and the stages of contemplation that arose during the formative stages of design serve as an interesting and pragmatic 'case example' of activist pedagogy in the classroom.

Activist Pedagogy

Many scholars and activists have suggested that activism in the classroom is an often overlooked but necessary component to education. Discovering a balance between reflective action and critical theorizing has often been neglected in favor of a strictly theoretical approach within academe and a strictly action-oriented approach outside 'educational' arenas. Activist pedagogy aims to integrate these two positions.

In his writings of the peasant farm worker, Freire suggests that education serves as dialogical freedom for both the educator and the educated. Freire notes that only through a true educational process can both parties be liberated from the oppressive structures rooted in our consciousness and our culture. In a piece titled *Cultural Action and Conscientization*, Freire purports that to begin any analysis one must critically comprehend that man "exists in and with the world" (pp. 499).

Teachers within media must constantly struggle to situate their students within the larger context of media and society. This placement 'in and with the world' can, at times, be a difficult process for the student. During the creation of the media kit, the students I worked with began to emotionally and intellectually understand the structures that serve to suppress the growth of many community organizations — and how they were situated within these structures. While, these students had surely been taught obstacles to media coverage in the past, a direct examination of a particular

group helped amplify their understanding. Their empathy and newfound knowledge quickly turned to activism within the project.

While deeply theoretical in his approach, Freire maintains that contemplation in the absence of action is an escapist undertaking. As he suggests in his book *Pedagogy of the Oppressed*, the peasant must be given the correct tools but also must understand their use and meaning in a broader context. hooks, another proponent of activist pedagogy, intuitively links the peasants of Brazil that Freire focuses his attention on and marginal groups within the United States. In *Teaching to Transgress* she notes that 'domestic colonization' in Brazil is akin to the United States through "the politics of domination, the impact of racism, sexism, class exploitation" (1994, pp. 46).

These 'politics of domination' usually present themselves when working within a problem-posing learning arena. When addressing culturally specific issues of subordination, media access and principles of newsworthiness, students begin to question and contemplate societal structures. Following the framework of Freire's activist pedagogy, the goal of this media resource kit was to create a valuable source for learning, for practice and for freedom.

Role of Media for Community Groups

A community organization, much like a social movement, is generally focused on a particular issue. In addition, both are typically political in focus, strive for social change, yearn for media attention and hope to attract volunteers. Certainly, long-standing community organizations and fledgling movements both depend on media as an essential bridge to a larger political sphere. For the purpose of this study, it is within this context that the terms 'community group' and 'social movement' will

periodically be used interchangeably in order to better understand the role media play in producing social change.

News has become a political resource for community organizations — an essential political resource. "The modern mass media have become central to the life and death of social movements" (Kielbowicz and Sherer 1986). This is logical when one considers that news provides information to others, which can play a fundamental structural role in their decision making (Gandy, 1982). News is also an "authoritative version of reality, a way of knowing associated with high levels of cultural legitimacy" (Barker-Plummer 1995, p.3). Thus, news offers a type of membership of knowledge that participators engage in. For a community organization, news provides the venue for membership of knowledge surrounding the group and the hope that the membership will extend to the actual organization itself.

Gitlin, a preeminent social movement theorist, writes that, "of all the institutions of daily life, the media specialize in orchestrating everyday consciousness—by virtue of their pervasiveness, their accessibility, their centralized symbolic capacity" (pp. 2). Media have evolved into a highly skilled system of networks that distribute ideology throughout the societal masses. Community organizations must understand media structures and work within these confines if they hope to spread knowledge about their cause.

Media have become essential as a tool for groups to gain a larger audience — especially in lieu of what Olson has labeled the logic of collective action (1965). This rationalization of apathy asserts that a person will explain their uninvolvement through a logistical process that assumes others will act in their place and therefore, immediate personal action is unnecessary. Most people perform these logistical conclusions on a

daily basis. According to Olson, the logic of collective action has the potential to crush a fledgling movement before it even begins.

The very nature of a nascent community organization's existence is inherently fragile and dependent upon media for much of their growth. While not all growth is desirable, unfavorable media coverage can halt the development of an organization or reverse any previous gains made — effectively slowing the process of social change. Therefore, it is increasingly important to the group that media serve to create public awareness, confer status upon an organization, recruit new members and offer psychological support to members.

Public Awareness

Without media coverage, many members of the public would not even be aware of a community group's existence. According to social movement theory, the public receives their information concerning social groups primarily from the media. Relatively few in our society form their opinions of social movements or community organizations through personal contact. Gitlin states that the media image, "tends to become 'the movement' for wider publics and institutions who have few alternative sources of information, or none at all, about it" (1980, pp. 3).

In addition, media link community organizations with other civic and political members of the public. Trade unions, political parties and governments can gain access to information concerning movements through the media (van Zoonen 1992). If media did not cover a community organization, it would be extremely difficult to inform the public (both individual and institutional) about a group's beliefs and equally difficult for the group to gain any status in the larger political arena.

Confer Status

In media-saturated societies, "voice in the news is a key part of making one's 'account count' in the public sphere" (Barker-Plummer 1995, pp. 307). News serves as a symbolic form of power for a community organization, because with it the group has the possibility for achieving the social change they are striving for. The importance of the media to smaller movements cannot be underestimated. For the movement, and for the public, news serves as an agent for social change. The media have such strong power that if the media overlook an organization, the possibility of them remaining a viable force for change drops considerably.

Gitlin states, "mass media define the public significance of movement events or, by blanking them out, actively deprive them of larger significance" (pp. 3). Hence, through omission, the media effectively remove an organization from having any cultural significance. The effect of this omission is what Gerbner has called symbolic annihilation (1972). A group that has been consistently overlooked by media loses pragmatic importance in the political landscape and eventually begins to recognize its own undervalued existence.

Recruiting Members

Media are essentially important to community organizations because it is where they can influence potential recruits. Positive coverage confers legitimization. Upon viewing favorable coverage, potential recruits are comforted by the knowledge that others believe as they do. Unfavorable media coverage discourages involvement for exactly the same reasons. If a potential recruit watches a damaging segment about the organization, they could begin to believe that a majority of people disregards the

movement as unimportant and ineffective. Thus, they may become less inclined to join the organization.

Psychological Support

Molotch notes that media can provide psychological support to already active movement members (1979). Anything difficult takes an enormous amount of tenacity and strength, which must periodically be reaffirmed. Thus, media can serve as a mental boost to members who are beginning to doubt their effectiveness within the community organization.

According to social movement theory, community organizations find themselves in a perplexing and often difficult position. On the one hand, they desperately need media to disseminate their meanings to a larger audience but on the other hand they have reduced control on the quality or quantity of reported information. However, many groups are unaware of the opportunities that they may have in working with the press.

The Media Gap

Financial Constraints

Previous scholars have noted the absence of community organizations in the mainstream press. Several have suggested it is due to a lack of resources. "Community, labor, and non-profit organizations routinely are outmatched in their efforts to employ news as a political resource because of the considerable media access afforded public officials, well-financed public relations campaigns, and media-savvy conservative think tanks" (Ryan et al, 1998, pp.166). The present media corporatization process has resulted in a scenario where the establishment controls the

responsibility of meaning-making and those outside of the establishment often lose sense of efficacy.

Simply sponsoring stories to news organizations can be a difficult undertaking. While journalists will often report that community organizations do not approach media representatives with credible stories (Ryan et al, 1998), those within community organizations often suggest a contradictory rationalism. Within a centralized media, access to media organizations can be problemitized due to resources that are largely outspent by corporate-sponsored public relations campaigns (Puette, 1992, Douglas, 1986). The financial constraints placed upon many community organizations often serve to limit available avenues of media representation.

Media Knowledge

Outside of financial constraints, many within organizations are unaware of the opportunities available to them in crafting their own meaning within the media structure. Gamson and Wolfsfeld noted that one of the issues impeding coverage for social movements may be that they, are "unwilling to dedicate resources to media strategies, to coordinate their stance in transactions with the media, or to gain an understanding of the world of journalists and media systems" (1993, pp.121). Thus, many community organizations remain unaware as to the avenues for gaining coverage because they simply do not understand the media system.

Attempting to unravel the intricacies of media can be extremely labor intensive but is necessary if organizations are to play a part in the making of their own meaning within media (Barker-Plummer, 1996). Without a clear understanding of media and specific tactics for coverage, organizations remain uninformed and ineffective in their

search for coverage. Several community organizations have found specific strategies for working with the media and gaining coverage.

Strategies for Media Coverage

Organized Events

Organized events may be crucial for a community organization to gain media coverage. Without organized events, it becomes more difficult for the media to describe the group in a way that is meaningful for the news media. This media routine is inherent to news gathering — news does not cover ideas, but rather events that are more sensational and interesting for the reader. Scholars working within social movement theory have revealed that one of the most powerful and commonly used strategies in enacting social transformation is the organized protest event (van Zoonen 1992, Montgomery 1989, Schoenfeld, 1979). These protests are necessary in a media atmosphere that overindulges in reporting spectacular, event-driven news (Magno, 1996).

Journalist Liaisons

Bonds with journalists can prove essential for the success of a community organization. It logically follows that if a reporter has intimate knowledge and contact with a group, she or he is much more likely to frame the movement favorably. This relationship building may be more difficult for groups whose purpose runs counter to a journalist's personal and/or professional values.

Regardless of the journalists' values, most reporters face the added pressure of delivering late breaking news (Magno, 1996). Thus, a group representative who wishes to gain coverage must not only make efforts to form a bond with journalists but

also be available for comment and questioning at the reporter's convenience. Obviously, this can require extensive additional effort on the part of the organization.

Expanded Political & Corporate Terrain

If a community organization can incorporate many different cultures, genders, religions, etc. into their ideology, their base of support will naturally expand as well (Jenness, 1995). This expansion of political terrain must, at times, crossover into the corporate arena as well.

Ryan, Carragee and Schwerner (1998) state that, "workers sponsoring stories routinely are under-resourced and outspent by parallel corporate-sponsored public relations campaigns" (pp. 171). The system of profit-centered media in this country requires many non-profit, modest groups to seek extensive financial backing. While many times, this support comes from individual sources, large corporations are being sought out for additional funds.

However, the fund-raising process can take valuable time and energy away from the movement's cause. Furthermore, the movement may have to shift or broaden its alliances and ideology to conform within the values and political affiliations of the corporate sponsor. Nevertheless, if the shift is slight and within the ideological range of the organization, the gained political clout may outweigh the costs.

Political Associations

In a statement reflecting a long-held truism of media sociology, Ryan, Carragee and Schwerner note that "access to news as a political resource...is distributed inequitably within U.S. society. Those holding institutional and political power have a far greater ability to shape the news agenda than alternative groups or movements"

(1998, pp. 168). These authors go on to state that, "news organizations, true to their criteria of newsworthiness, favored sources with official titles and verifiable expertise" (Ryan, Carragee, and Schwerner, 1998, pp. 178). Therefore, if at all possible, nascent community organizations must align themselves with those who hold political power in this country.

Organizing events, creating liaisons with journalists, expanding ideological terrain and forming political associations are strategies often used by community organizations and social movements. These media strategies were presumably formulated due to the pronounced importance media has on the life of a community organization. In an effort to bridge the ever-widening divide and introduce an activist pedagogical framework into the classroom, I began working with students to produce a media kit that could fill informational voids for a community organization.

The Media Resource Kit

When the kit was first conceptualized, it was seen as primarily a listing of area television stations, print publications and radio outlets. However, as the students' interest in the topic deepened, the media kit expanded to include six distinct and useful sections a community organization could easily reference. The sections were titled: Pros and Cons of News Outlets; Decide If Media Coverage Is Right For You; How To Generate News Coverage In Newspapers; How To Generate News Coverage on Television and Radio; Public Relations; and Samples From Media Kits.

Assumptions and suggestions about media outlets were made only after the students interviewed three professors in the department of communications, contacted practitioners in media and researched published work on the subject. Each of the professors interviewed specialized in one aspect of media production — television,

radio or print. Direct quotations were taken from the interview sessions and interspersed throughout the media kit. With every decision the students faced concerning information inclusion, they were reminded to consider exactly what a community organization would find useful. This persevering conceptual map guided the group throughout the project.

Weighing Options and Choosing Media

The 'Pros and Cons of News Outlets' section was targeted specifically for community organizations evaluating their media needs. Through their interviews, the students recognized that radio (especially talk radio) provides a devoted group of listeners who would be regularly available to receive a community organization's message. However, they noted that radio does not allow for specifically timed airings, so a community group may not know precisely when the spot is running. The students deduced that cable television is a good arena for public access as newspapers may not reach the appropriate age group for many youthful community organizations.

After consulting with other professors, the students agreed that an organization must first decide if media coverage is even appropriate. Thus, they created a section dealing specifically with that issue — 'Decide If Media Coverage Is Right For You.' Through their research the students discovered that an organization must understand their audience — much like a radio station attempts to understand its listeners. The students intuitively connected the process targeting an audience from a media perspective and from the position of a community group. After a community organization understands its audience, the students formulated a broad section that dealt with generating news coverage.

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Generating News

After an organization researches their audience and understands the options within each medium, the media kit details specific tips for calling journalists with story ideas. Through independent theoretical research, the students compiled pragmatic information such as "don't request a meeting" with a journalist; 'track your issue carefully in the news and make note which local reporters seem most receptive;" "for a media event, it is recommended to hold it at 5p.m. or 10 p.m. allowing the local media to broadcast it live at the scene;" "look into freelance writers;" and "respect deadlines and get right to the point." This bridging work between communicators and community organizations was the result of the student's intuitive questioning and research. The student's inquiry led to the creation of a community organization question worksheet that could be easily referenced when communicating directly with media outlets.

Specific questions to ask media representatives from different communication channels were prepared in alliance with research the students had completed. For example, in light of recent radio deregulation, the students found it would be applicable to ask if the radio station even accepts public service announcements and if so, what specific procedures the community organization should follow. As television is a much more costly medium, the students suggested that the organization ask if there are presently other public organizations using the station that could assist the community organization in getting started.

Public Relations

Largely due to an excellent reference manual, *Handbook for Public Relations Writing* by Thomas Bivins, the students compiled a list of tips for writing a news

release and assembling a press kit. Again, the advice was pragmatic but based on research and interviews with outside sources. Tips ranged from, "your press release should answer who, what, where, when and how" to "call citizen groups that serve the same cause as yours and ask for their media list." While many of the suggestions offered here might seem logical, it is easy to understand how a busy underpaid and understaffed organization could overlook them.

In an effort to further assist community organizations, the media kit concluded with a detailed list of area radio outlets, television stations and print publications, which included the appropriate phone numbers and addresses. For many of the media sources listed the students attached the company's actual media kits, which included rate cards and coverage maps.

Community Interaction

The students independently chose the community organization they wanted to work with. The primary criterion, as they decided, was to find an organization whose political goals matched their own and whose name they had never heard of. It was presumed that if the students already knew of the organization through media sources, the group probably already had working knowledge of the media.

The organization chosen was one that focused on alleviating child abuse through contacting children in the school system. The students presented the packet during a lengthy meeting with the program's director. The director explained her gratitude in receiving the packet and briefly reviewed her previous difficulties with media. According to the program's director, the organization has struggled to gain the attention of media and have often missed opportunities to spread their message. This

confirmation of the intrinsic value a media resource kit can have on a community organization clearly validated the students efforts.

Presenting the information directly to a community organization also offered the opportunity for outside critique. The organization director gave excellent suggestions that would be useful for future group projects. For example, for easier use and mobility the director suggested binding the information rather than presenting it in typical media kit style, which is generally loosely assembled in a folder. The organization director also thought more direct quotes from professors and practitioners would be helpful.

Discussion

Social movement theory has plainly concluded the importance media have on the role of nascent community groups. In response to the often-insurmountable obstacles in gaining media coverage, many organizations have enacted specific media strategies. Realizing the power of media and the strategies many organizations use to gain coverage, helped clarify a need for further media information within the community. It was this need that guided the formation of a media resource kit, which could be useful as a reference tool for community organizations. Furthermore, this understanding of media power combined with first-hand knowledge of a struggling community organization surely had a profound impact on the future careers of these communication students.

This project forged together the often-transgressing arenas of academia and industry. While plenty of representatives from both fields claim irreconcilable differences, legions of students drift through college unaware of how their knowledge

can be applied. Academicians must work to alleviate this common occurrence and search for pedagogical processes that offer meaning to their student's work.

Journalism education has focused on the pragmatic skills journalists need to report concise, well-informed stories to the broader public. The predominance of skills-based courses has recently been peppered by content that recognizes minority groups and marginal opinions. Teachers must continue to cite the role media can play for organizations, groups and individuals that hold less power in society. This information is essential to broaden the base of knowledge students have of the communities they serve in their work as reporters. However, this information has the ability to also reach outside of the classroom to enlighten students, empower activists and unite a community. Educators must remain careful to both present fresh theoretical perspectives to their students and also remind them that their work has a larger social and pragmatic consequence.

Through an activist pedagogical approach first suggested by Freire, students and educators can better situate themselves within the world that they often see from only a theoretical perspective. Projects that use theory to overcome pragmatic obstacles should be the focus in every classroom. In this case, the media kit served as a cognitive connection for these students as they make their transfer from pupils of communication to communication practitioners.

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If We Build It, Will They Come? The Effects of Experience and Attitude on Traditional-aged Students' Views of Distance Education

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If We Build It, Will They Come? The Effects of Experience and Attitude on Traditional-aged Students' Views of Distance Education

Abstract

The purpose of this study was to examine the effect of experience and attitude on traditional aged students' distance education adoption behaviors. Results of the study indicated that subjects with direct experience of distance education had significantly higher levels of attitude certainty toward the target adoption behavior, while for those subjects in the indirect experience condition, exposure to positive subjective norms information increased the likelihood of their intent to take a distance education course.

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Introduction

When institutional philosophers and visionaries contemplate what the university of the future will look like, their visions may focus more on virtual computer networks than on traditional brick-and-mortar. Some college and university administrators, noting that large numbers of traditional, on-campus students are enrolling in greater numbers in distance education courses, have been proposing "virtual universities" where modems take the place of classroom podiums (Guernsey, 1998). Indeed, corporate management consultants such as Peter Drucker have gone so far as to predict the demise of the traditional university classroom, calling it "inefficient and overpriced" as compared to distance education delivery methods (Bray, 1999).

The traditional college classroom, until recently one of the few places where face-to-face communication between instructor and student was seen as the desired norm, has in fact been undergoing rapid transformation due to the impact of distance education based communication technologies, including compressed video and the Internet. In many colleges and universities, not only adult learners, but also traditional-aged students now have the option of taking classes off-site, via sophisticated computer and videoconferencing networks ("Universities Targeting," 1998).

In addition, online computer applications, both proprietary and Internet-based, have begun to augment and supplant some of the traditional live classroom interactions that typically take place between instructor and student. Through their ability to facilitate electronic one-to-one communication, Internet-based applications such as email, online chat and bulletin board forums have begun to provide additional virtual linkages between instructor and student that transcend

physical distance and time. As a result, at many universities, syllabi, lecture notes, assignments and even grades are now routinely available online, even in courses taught entirely face-to-face.

As various forms of teaching with technology, from full-blown distance education using telecommunications and asynchronous, computer-based learning to in-class use of computers and interactive communications technologies become more common in courses aimed at traditional-aged students, questions related to these students' attitudes and perceptions, as well as the effect of the experience of such technologies on subsequent adoption behavior, become increasingly more important.

For some traditional-aged students, the opportunity to take a technology-based distance education course may be attractive, perhaps, because it is a convenient and novel approach to the process of education. For others, however, beliefs about some of the potential drawbacks of distance education, such as the lack of structure provided by a live instructor, or lack of access to a computer, may negatively affect attitudes and intent to take a distance education course. As one faculty member put it, "The thought of putting 19-year-olds and 20-year-olds into a program where they have no contact with teachers, no contact with fellow students, no contact with libraries, no contact with the atmosphere of a university - it's very disturbing" (Bray, 1999, p. 3). Yet, although most of the field studies that have been done on student attitudes and behavior toward distance education report a preference for traditional "group" learning, studies also report an escalating level of student demand and participation for such courses (Simonson, Johnson, & Neuberger, 1997).

Purpose and Objectives

Given the above, the study of adoption behavior as it relates to the attitudes and perceptions of traditional-aged students toward distance education is important, from the perspective that the

success of distance education programs in higher education ultimately will be determined as a function of whether or not students can be motivated to participate, as well as how positively or negatively they may feel about their experience. Just as advertising is typically concerned with the formation of positive attitudes which in turn are presumed to drive behavior, educators and institutions of higher learning need to be concerned with understanding how factors that impact student attitudes affect behavior if they are to be successful in constructing distance education courses that effectively reach and subsequently teach their students.

The limited research that has been done in this area seems to suggest that student attitudes and subsequent behavior may in fact be impacted more by components of the distance education experience than by generalized attitudes toward distance learning. For example, several studies of subjects who have actually taken distance education courses report more positive attitudes and behavioral outcomes than those studies focusing on more generalized student attitudes toward the concept itself (Jones, 1992; McElveen & Roberts, 1992). This may be due to the effect of direct experience and familiarity as moderating variables impacting students' attitudes toward the specific adoption behavior of participating in a distance education course.

It may be the case that traditional-aged students, in particular, lacking any direct experiences of their own, are relatively uncertain of their attitudes, and tend to turn to the influence of peers and the persuasively crafted arguments of others when attempting to form decisions about distance education. In such a circumstance, the resulting impact on attitudes and subsequent behavior could either be very positive, or very negative, depending on prevailing points of view within the relevant circles of reference. If so, this would seem to suggest that not only the direction, but the certainty with which students hold their attitudes could be a critical determinant factor in the success or failure of a distance education program.

This study therefore was designed in an attempt to answer the following questions:

(1) How does direct experience of distance education influence traditional-aged students' attitudes and perceptions and the certainty with which they hold them?

(2) For those students who lack experience of distance education, how do evaluatively oriented moderating factors, such as normative influences, impact their behavioral intent toward taking a distance education course?

Conceptual and Theoretical Framework

Adult learners and former patrons of "correspondence school courses" looking to balance educational, professional and personal priorities have been in the forefront of the distance education adoption cycle. If this educational innovation is to be successful long term, however, adult learners must be followed by more mainstream, traditional-aged students. Many of these later adopters are currently being offered the choice of taking distance education courses by a growing number of traditional institutions of higher learning. Since they lack the personal and professional incentives of the early adopters, the motivations for these students to engage in this particular adoption behavior may be dramatically different from those of the traditional adult learner. The "if we build it, they will come" model of institutional development of distance education programs may hold little currency for this new and growing student market. Institutions of higher learning might find it unexpectedly difficult to fill seats in the virtual classrooms of tomorrow without a better understanding of how to motivate desired behavioral outcomes among this group.

In this context, the attitudes and perceptions of traditional age students as they relate to adopting technology-based distance education may be an under-examined issue. While studies have been conducted that compare distance education to traditional "live" classroom experience

(Souder, 1993; Egan, et al., 1991), and look at the effect of various components of teaching and learning styles (Schlosser & Anderson, 1994; Wilkes & Burnham, 1991; Mason & Kaye, 1989), very few deal directly with the traditional-aged student population.

The Theory of Planned Behavior

One of the reasons that the attitude-behavior relationship is so central to the study of attitude is that behavior can be used as an indicator of attitude. This has led researchers to develop behavioral measures from which they can infer attitudes. A seminal work in attempting to understand and predict behavior and behavioral intentions which has been used extensively in educational research is the Theory of Planned Behavior (Ajzen, 1991). The Theory of Planned Behavior, or TOPB, is an extension of the Theory of Reasoned Action, or TORA (Fishbein & Ajzen, 1975). The basic proposition of both models is that in order to predict a behavior ***B*** (such as enrolling in an online course), one must try to measure an individual's intent to behave, or ***BI*** (such as intent to take an online course), itself a function of attitudes toward the target behavior and subjective norms. In both the TORA model and the later theory of planned behavior (TOPB), attitudes are a function of beliefs about and assessments of perceived consequences of acting in a certain way, such as beliefs about the advantages or disadvantages of technology delivered instruction. Subjective norms refer to an individual's interpretation of what important referents think about the desirability of a behavior, combined with the individual's desire and motivation to comply with what significant others may think or believe should be done.

In an attempt to answer critics of the TORA, who argued that most behaviors are neither volitional (as in the initial model formulation) nor involutional, Ajzen added an additional variable to the TOPB called perceived behavioral control, which measures perceptions of

individual control over the target behavior. The resulting predictive equation can be written as follows:

$$B \approx BI \approx (AB+SN+PBC) = w1AB+w2SN+w3PBC$$

where ***AB*** is attitude towards the behavior, ***SN*** is subjective norms, and ***PBC*** is the degree of perceived behavioral control a subject feels over the behavior.

In the specific context of distance education, where studies have shown a high correlation between attitude toward technology and student familiarity (Barron, 1987; Smith & McNelis, 1993), as well as a correlation between familiarity with technology and reduction in anxiety (Jones, 1992; Riddle, 1990), one might expect the predictive value of efficacy toward behaviors supporting distance education to be somewhat moderated by the strength and certainty of one's attitudes.

Along these same lines, subjective norms might also interact with attitude. Intent to take a distance education course may be a behavior perceived to be, to a great extent, under one's own control and not subject to significant influence by peers, advisors, relatives and other referents. However, for those students who have not yet adopted the technology represented by the target behavior, it may be the case that their weaker, less certain attitudes could be more strongly impacted by the opinions of relevant normative influences.

Rationale for the Study and Hypotheses

One of the central problems related to traditional-aged students' adoption of distance education might be that students are being asked to engage in an adoption behavior for which they have little contextual experience with which to guide themselves. In most colleges and universities, only small percentages of students have actually participated in a distance education course; and of those who have, there are no doubt some who hold negative attitudes related to

lack of social interaction and unfamiliarity with the (often not very stable) technology being used.

In this context, direct experience of technology-based distance education should serve to strengthen and make students more certain of their attitudes and thus less susceptible to the influences of others. Yet, in a domain where weakly held attitudes based on limited experience are the norm, behavior and intention to behave might be influenced by a variety of factors that could make predicting outcomes very difficult.

> H1: Subjects with direct experience of the target adoption behavior will have a higher degree of attitude certainty toward taking a technology based distance education course than those who lack such experience.

Along these lines, studies have shown that the attitudes of people who have had direct experience with an attitude object were moderately related to subsequent attitude-relevant behaviors, whereas attitudes of people without direct experience had slight or no relationship (Regan & Fazio, 1977). Fazio and Zanna (1978a; 1978b) contended that what they defined as "attitude qualities," such as confidence, clarity and certainty, could also moderate the attitude-behavior correspondence. The researchers (Fazio & Zanna, 1981) later developed this idea into an operationalization of attitude certainty, which was based on the idea that factors such as experience could affect these attitude qualities, which in turn could affect intent and subsequent behavior.

> H2: For those subjects with direct experience of the target adoption behavior, the degree of attitude certainty will significantly increase over time.

Fazio's process model (1986) was based on the concept of attitudes being activated upon exposure to an attitude object. This activation led to selective perception, in which the subject

evaluated the attitude object on the basis of any pre-existing attitudes, then immediate perception, in which the subject considered new information based on exposure. Immediate perception led to a definition of the event that would then develop into behavior. Sometimes, however, the attitude object was not the only factor in the process. Fazio acknowledged the impact of norms in some situations, arguing that norms for an event or behavior could lead to a definition of the situation that would then factor into behavior along with definition of the event.

Fazio contended that variables such as direct experience strengthened the attitude-behavior relationship because they are more accessible, i.e., more easily called up from the subject's memory upon contact with the attitude object. From Fazio's perspective, attitudes can be activated upon exposure to an attitude object, either called up from memory or automatically activated upon exposure. Attitudes can therefore have a greater or lesser degree of accessibility. Fazio held that the more accessible an attitude, the stronger and more certain it would tend to be, and the stronger and more consistent the relationship between attitude and subsequent behavior.

Critics of Fazio (Eagly & Chaiken, 1989) have contested his operationalizations, arguing that manipulations of accessibility might operate at least partially on the basis of the attitude's strength, certainty, or degree of extremity. Weak attitude-object associations, for example, may in fact be moderated by attitude strength in addition to their accessibility. Looked at in this way, indirect experience may predict behavior less well than direct experience because subjects with indirect experience hold attitudes that are weaker and less certain. When they receive new information about the attitude object, such as that provided by relevant normative referents, their attitude is therefore more likely to be subject to change.

H3: For those subjects who lack experience, exposure to positive subjective norms feedback will **increase** their likelihood of engaging in the target adoption behavior, while

exposure to negative subjective norms feedback will **decrease** their likelihood of engaging in the behavior.

Methods and Materials

Research Design

The research design used in the study was a 2 x 2x 2 mixed model repeated measures design consisting of the independent variables of experience (two levels), time (two levels, before and after treatment), and subjective norms feedback (three levels). For hypotheses one and two, the model was analyzed with attitude certainty as the within subjects factor; for hypothesis three, behavioral intent to take a distance education course was used as the dependent variable.

Procedure

Subjects were drawn from a sample population of college students. To test the effects of experience and the norms feedback stimulus over time, subjects were randomly assigned to one of two treatment conditions related to experience of technology-based distance education as follows:

a). Half the sample participated in a week-long distance education module developed from the course they were taking, using the same instructor and content, but delivered via videotape and the Internet;

b). The other half of the sample were exposed to the same instructor and content, but delivered in the traditional live classroom setting.

In addition to the experience treatment condition, subjects were also randomly assigned to be exposed to one of three versions of a stimulus designed to provide subjective norms feedback to

respondents. The feedback stimulus consisted of a newspaper article purporting to contain information and statistics regarding students' opinions toward distance education. The three resulting conditions contained subjective norms feedback indicating that students were either overwhelmingly in favor of or opposed to more distance education on their campus. The neutral condition contained only a description of the course.

The experiment involved two measurements of subjects' attitudes and intentions, taken before and after exposure to the direct and indirect treatments. To conduct the study, all subjects first received a color-coded questionnaire booklet consisting of attitude and behavior scaling measures, as well as the randomly assigned subjective norms feedback stimulus, which was placed as a separate page within the questionnaire packet.

After the T1 administration, subjects were randomly assigned to either the experimental (direct experience) or control (indirect experience) conditions. Subjects in the control condition were dismissed and asked to return to class for the next scheduled session as usual. Subjects in the experimental condition were given access to the online materials as well as the videotape containing the instructor's lectures. As part of their instructions, subjects were told they should not attend class during the experiment. After the testing period, all subjects were re-grouped and again administered the questionnaire instrument.

To insure validity and reliability, the experimental treatments and the questionnaire instrument were pre-tested on an equivalent student sample. In addition, a series of manipulation checks were utilized to insure that the observed effects were the result of the experimental manipulations. Finally, after the questionnaire had been administered for the second time, all subjects were extensively de-briefed, and the instructor then administered a quiz to both groups

to determine if any differences existed in performance. No significant differences were observed.

Definition of Scales

Scale items for the questionnaire were adapted from the TOPB framework. Attitudinal and behavioral scale items drawn from the TOPB model (attitude and its antecedents; subjective norms and its antecedents; perceived behavioral control and its antecedents; behavioral intent and behavior) consisted of seven-point semantic differential scales anchored by bipolar adjectives (good/bad; favorable/unfavorable; pro/con; appealing/unappealing; like/dislike; willing/unwilling; likely/unlikely; take/will not take).

Attitude certainty was constructed as a three-item index, comprised of two items asking respondents how certain and confident they were in their evaluation of their attitude toward distance education, as well as a third item asking respondents how certain they were of their evaluation toward taking a technology based distance education course.

Results

General demographics based on a final *n* of 72 subjects were obtained from the sample for gender, year in school and computer ownership. Responses indicated that 68% of the subjects were male, and 32 % were female. Eighteen percent were freshmen, 28% were sophomores, 36% were juniors, 21% were seniors and 1% were graduate students. Of this number, the vast majority -- over 83% -- owned a computer.

In order to conduct the analyses, indices were constructed for each of the testing variables in the study. Each of the indices was constructed by combining the relevant index items from the questionnaire for both T1 and T2 response sets. Principle component factor analysis using varimax rotation was used on each set of index items to find the items which loaded together as

one factor, then reliability analyses were run for each resulting index using Chronbach's alpha statistic. Standardized item alphas for the indices used in the study were .98 for attitude; .91 for attitude certainty; .69 for subjective norms, and .55 for behavioral intent. Perceived behavioral control was analyzed as a single item variable.

Hypothesis Tests

To analyze the hypotheses, a repeated measures ANOVA was conducted utilizing experience (two levels) subjective norms feedback exposure (three levels) and stimulus timing (two levels) as between subjects factors and attitude certainty as the within subjects factor. Although the anticipated three way interaction was not significant at $p < .05$, it was significant at $p < .10$, $F(1, 58) = 2.77$, $p < .07$.

To analyze the three-way interaction, the simple two-way interactions between experience and each feedback stimulus condition were analyzed, then the simple interactions of the feedback stimulus on the direct and then indirect experience groups was analyzed. Results of this analysis supported hypothesis one. A main effect for the direct and indirect experience groups, $F(1, 58) = 3.83$, $p < .05$, was found, indicating that the degree of attitude certainty toward taking a distance education course was higher for those subjects with direct experience, as compared to those subjects without experience. Table 1 shows the means for attitude certainty for the direct and indirect experience groups.

Table 1. Attitude Certainty Means for Direct and Indirect Experience Groups at T1 and T2.

	Positive Stimulus		Negative Stimulus		Control Stimulus	
	T1	T2	T1	T2	T1	T2
Direct Experience	5.63 (17)	6.27 (17)	4.71 (15)	5.40 (15)	5.09 (12)	5.45 (12)
Indirect Experience	5.15 (9)	5.22 (9)	5.61 (7)	5.40 (7)	4.70 (10)	5.20 (10)

Hypothesis two predicted that for subjects in the direct experience group, attitude certainty would increase over time of exposure. This hypothesis was supported. Analysis of the simple two-way interactions within experience revealed a simple simple main effect for the direct experience group, $F(1, 41) = 10.22$, $p < .00$, indicating that for this group, attitude certainty significantly increased from T1 to T2, but this was not the case for the indirect experience group, $F(1, 23) = .24$, $p < .6$.

Hypothesis three predicted a simple interaction effect between subjects in the indirect experience group and subjective norms feedback, such that exposure to the positive feedback information would increase their likelihood of engaging in the target adoption behavior, while exposure to the negative feedback would decrease their likelihood. This hypothesis was partially supported. ANOVA results revealed a simple interaction effect for subjects in the indirect experience condition, $F(1, 22) = 2.98$, which was significant at $p < .1$. Table 2 displays the behavioral intent means table grouped by feedback and time (T1 and T2) for subjects in the indirect experience group.

Table 2. Means Table for the Effect of Experience, Subjective Norms Feedback and Time on Behavioral Intent*.

	Positive Stimulus				Negative Stimulus				Control			
	T1		T2		T1		T2		T1		T2	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
DE	3.25	1.28	3.35	.89	3.48	1.30	3.20	1.22	2.92	1.18	2.58	1.50
IDE	2.74	1.16	3.70	1.27	2.86	1.62	2.57	1.56	3.03	1.36	2.77	.71

* Recoded behavioral intent index scores ranged from 1 as "very unlikely" to 7 as "very likely".

Comparison of means indicated that, for subjects in the indirect experience group who were exposed to the positive stimulus, behavioral intent significantly increased from T1 to T2. In addition, further comparison indicated that the T2 positive feedback mean was significantly higher than the negative and neutral feedback means.

Discussion

Implications of the Study

The marginally significant three-way interaction and the main effect for attitude certainty suggest that the experience manipulation did have a measurable effect in terms of serving to increase the strength and certainty of respondents' attitudes. However, one of the most interesting implications of this study involves the subjects' low levels of behavioral intent. Based on the results of this study, behavioral intent toward taking a technology based distance education course seemed to be somewhat low in the sample population of traditional-aged collage students, and the direct experience manipulation did not change this greatly. It did appear, however, that the subjective norms feedback affected behavioral intent for subjects in the indirect treatment condition to some extent. Although behavioral intent was lower at T2 for both the direct and indirect experience groups, the behavioral intent of subjects in the indirect experience condition who were exposed to the positive feedback stimulus increased over time. This seems to provide some support for the idea that subjects with weakly held attitudes are susceptible to subjective norms influence and messages that contain them.

Conclusions

Based on these results, it seems apparent that modern traditional-aged students expect a fair amount of choice and input when it comes to being asked to support institutional initiatives that affect their role as consumers of higher education. However, although the notion of consumer

choice seems perfectly consistent with the marketing philosophy of most of this country's successful consumer marketing organizations, it is not at all certain that this lesson is being heeded by institutions of higher learning.

The "if we build it, they will come" mentality of many institutional administrators and developers may not necessarily be enough to counterbalance some of the issues that distance education faces with traditional aged students, such as the impact of social distance and inconsistently performing technology, frustration due to students' learning curves in mastering course technology, development costs, and lack of viability of multi-course programs needed to achieve critical mass. Certainly, all signs point to dramatic changes in technology in the near future that could dramatically improve this situation and, by extension, the comfort level and attitudes of students and faculty alike. However, if institutions wish to prepare to take advantage of these changes, they may need to revise their marketing philosophy with respect to looking at their students as discriminating consumers of higher education.

Taking a page from consumer marketing, where efforts to roll out a new product usually aim at preparing potentially targeted audiences with positive images and a great emphasis on benefits to be gained from its use, institutions of higher learning may need to take greater to insure that students' experiences of distance education are positive, and that quality control is maintained, if their efforts are to be successful. Earlier in the adoption cycle, when most distance education programs were small, single-department based efforts aimed at strongly motivated adult learner/continuing education students, there was little need to think in terms of a student consumer marketplace which could influence the success or failure of a program. Now that some institutions of higher learning are turning their attention to their traditional student base,

however, it may be time to realize that colleges and universities need to play by the same rules as other consumer marketing organizations if they are ultimately to be successful.

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